

NOVEMBER/DECEMBER 1977. ISSUE 37. Vol. 8, No. 10

Trains 70c.*

MODEL RAILWAY

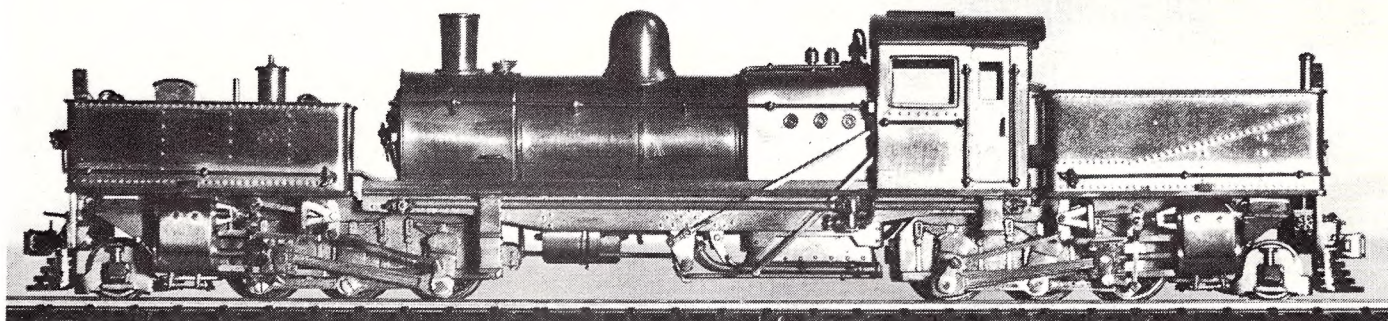
AMRM



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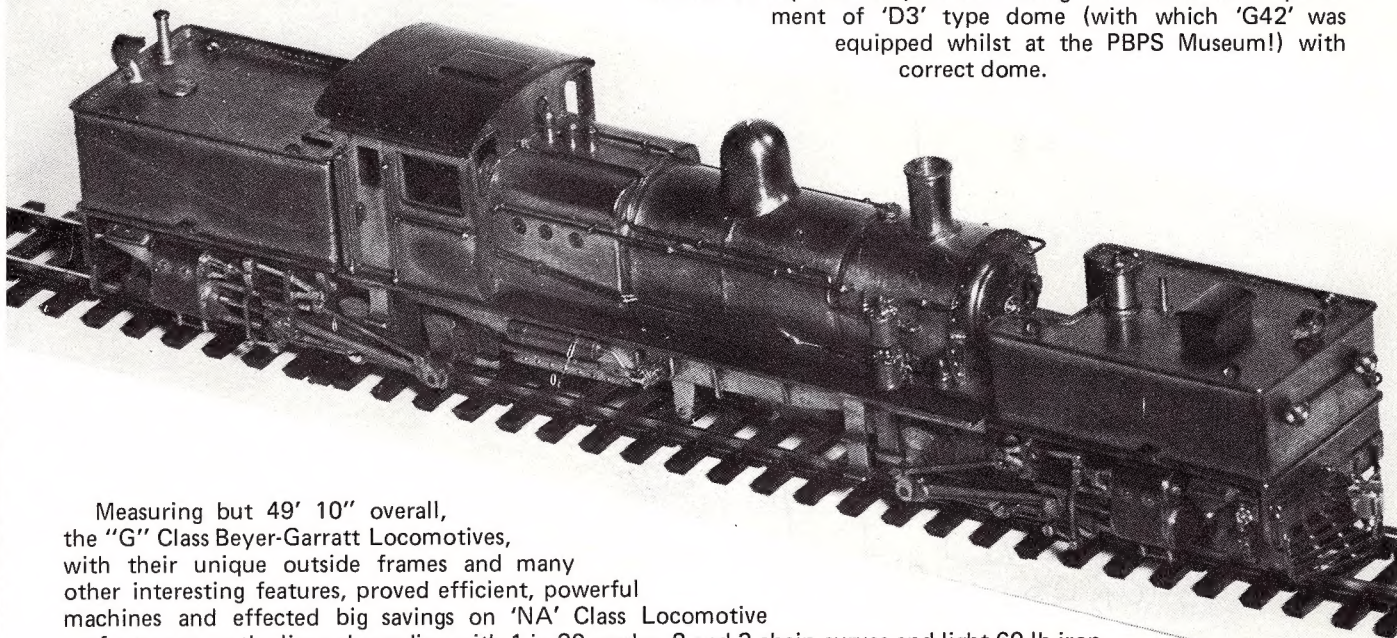
COMING!....

THE V.R. "G" CLASS NARROW GAUGE BEYER-GARRATT LOCOMOTIVE.....



By way of a preview of forthcoming developments, these views show the pilot model V.R. 2' 6" gauge "G" Class 2-6-0 + 0-6-2 Beyer-Garratt Locomotive. The prototype of which were the running mates to the now famous 'NA' Class 'Puffing Billy' Prairie Tank Locomotives, on the two heaviest of the V.R.'s former narrow gauge divisions.

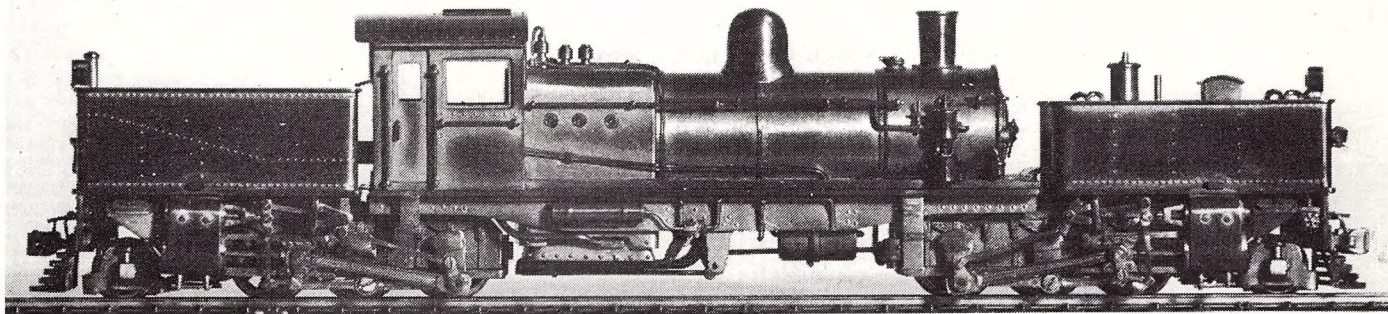
Detailing corrections and additions will include provision of correct pattern Pyle-National headlights, drip loops in marker lamp conduits, coined leading truck frames and replacement of 'D3' type dome (with which 'G42' was equipped whilst at the PBPS Museum!) with correct dome.



Measuring but 49' 10" overall, the "G" Class Beyer-Garratt Locomotives, with their unique outside frames and many other interesting features, proved efficient, powerful machines and effected big savings on 'NA' Class Locomotive performance on the lines abounding with 1 in 30 grades, 2 and 3 chain curves and light 60 lb iron.

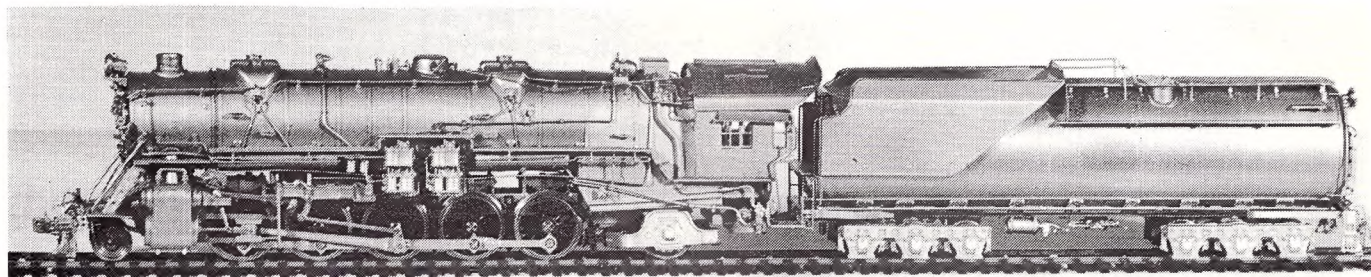
Now that the remaining 'G42' is to be rebuilt and returned to service on the tracks of the Puffing Billy Preservation Society, 'Dockyard are aware of a world wide interest in these fascinating narrow gauge Beyer-Garratt Locomotives and as previously announced, this model is to be produced in limited quantity, in both H0n2½ and H0n3 gauge.

We thank all those road masters who have already forwarded their order for the "G" Class Locomotive to ourselves or their nearest stockist of brass locomotives and we remind those who wish to reserve their model, but have not yet done so, that production will be limited to firm orders in hand when tooling commences, during 1978. All surplus Locomotives will be absorbed by our distributors in Europe and the U.S.A.

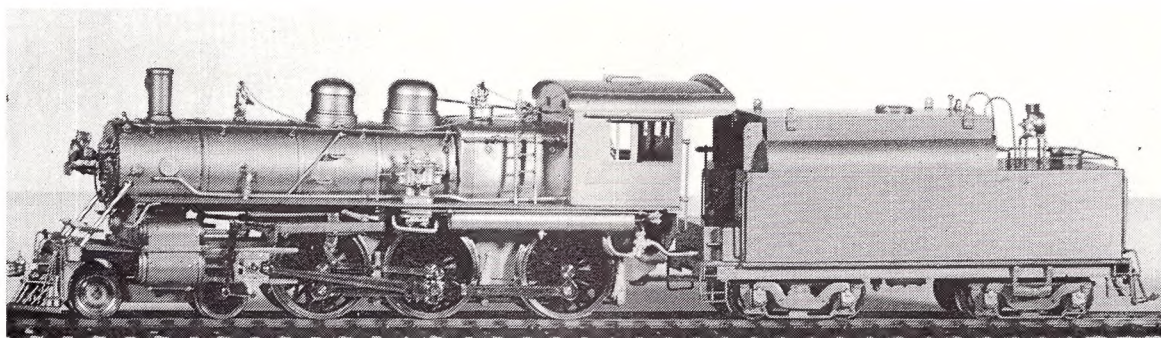


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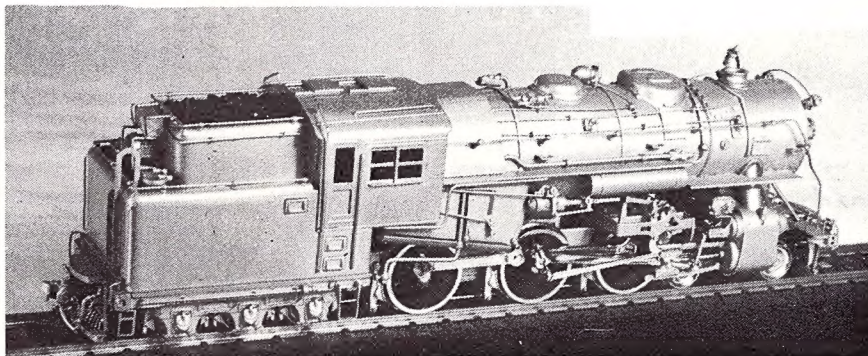
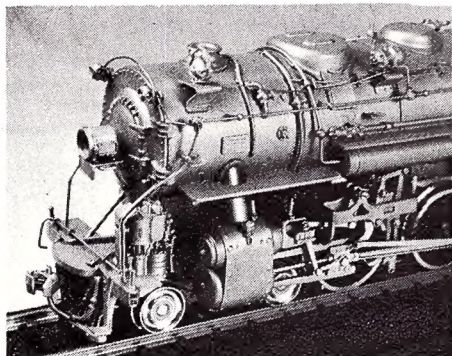
NEW DELIVERIES IN HO SCALE.....



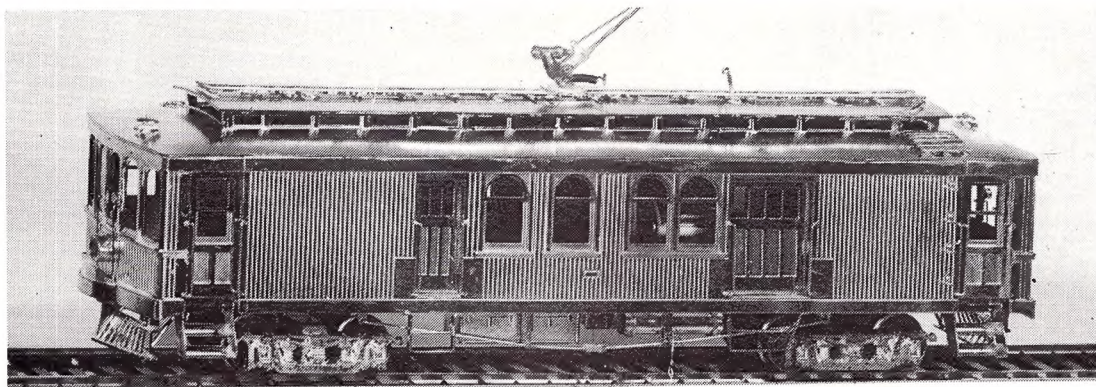
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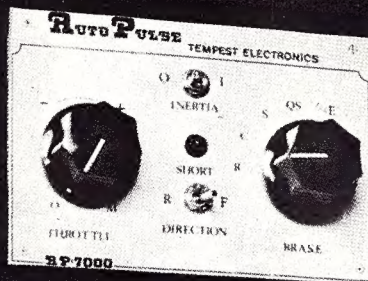
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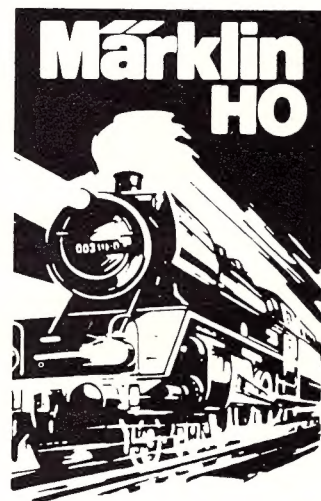
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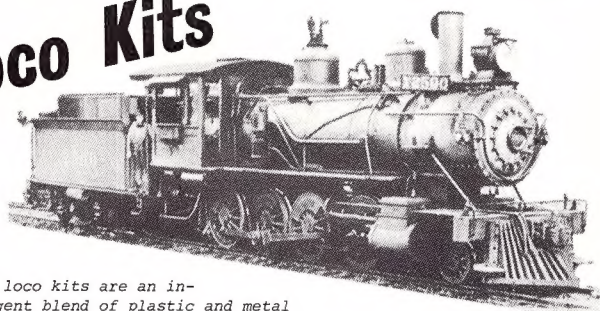
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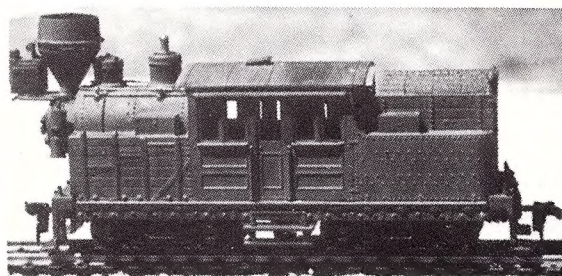
430 Undecorated 431 Santa Fe

KIT FOR 4-6-0 WITH TENDER \$55.00

459 B. & O. with Harriman Coal Tender

KIT FOR OLD TIMER 2-8-0 CONSOLIDATION W/COAL TENDER \$59.95

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483 Pennsylvania 484 Union Pacific



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The kit has a one piece moulded body with a separate roof and detailing parts. The chassis is a ready-to-run, pre-assembled unit. The kit includes many optional parts for use at the modellers discretion.

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- *810 Three ladies, three men walking, carrying bags
- 818 Two groups of three walking
- 853 Six ladies individually seated
- *855 Three ladies, three men seated
- 870 Six workmen with picks shovels etc.
- 876 Six gangers, 4 with sleepers
- *908 Station staff: 5 men, 1 lady
- 963 Wedding Group, bride, groom etc.
- 967 Wedding Guest, 3 couples
- 2234 Six transport workers
- 2258 Six trades people, butcher, baker etc.
- 2268 Loco drivers and firemen, 6 figures
- *2280 Train Crew, shunters, greasers etc. (6)
- 2292 Three groups of two climbing stairs

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- D-5 Grey Slates D-12 Grey Rubble Wall
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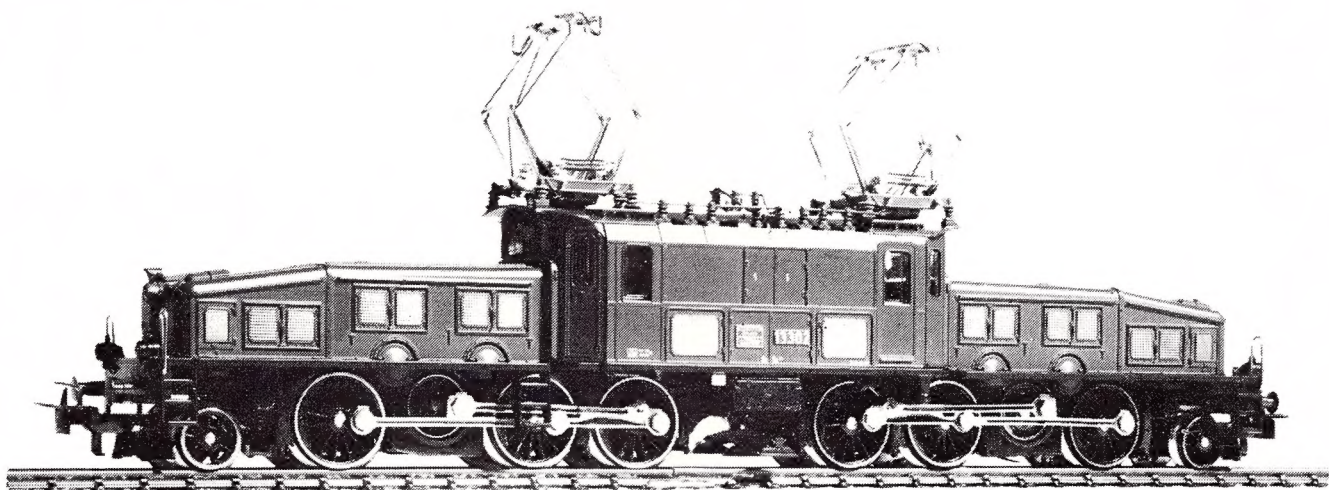
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NOVEMBER/DECEMBER 1977
Issue 87. Vol. 8 No. 6.
AT ISSN 0045-009X

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 January/February 1979 15.12.78

ON THE COVER: A triple cross at Mount
 Lofty. Twin 930 class Alcos begin to
 accelerate their train away from the
 platform while the Overland awaits on the
 next track and a railcar stands on the far
 track. Photo by Hugh Williams.

THE NSW MODEL RAILWAY CLUB LAYOUT
PTC MISCELLANY — 1. "Rolling the Blues"
PROTOTYPE PLAN: VR "JX" Bulk Cement Wagon
WEATHERBOARD HOUSES
RE-USING FLEXIBLE TRACK
LOCOMOTIVES OF THE NORTH EAST DUNDAS TRAMWAY

Alan Templeman 13
 Paul Rogers 14
 Ian Stevens 15
 G. Stillman 17
 D. J. Thomas 18

A CAKE TIN TURNTABLE

A. Parnell and J. J. Bevan 19

SCENIC ROUTE

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A 930 CLASS CONVERSION

Bob Gallagher 23

930 CLASS DIESEL ELECTRIC LOCOMOTIVES OF THE SAR

Bob Burton 24

BOOKS

MORE MUSCLE

John Bevan 31

"R" CLASS CARS OF THE NSW

Hugh Williams 32

NSWR

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COMMENT

One cannot but notice the vast improvement
 that has occurred over the years in regard to
 model railway photography. Gone are the days
 when one would stand six feet back, fire the
 shutter and end up with a photo of half the
 layout.

Nowadays the modeller is more intent on
 "getting into the scene" and photographing
 from the angle it would be viewed were it to
 be of the real thing. A lot of thought and
 special effects goes into staging many of these
 shots to make them look as realistic as possible,
 and many photographers must take credit for
 visually fooling readers.

Scenicked dioramas are an ideal thing for
 model photography. They can be made in any
 shape and size. Being portable, they can be

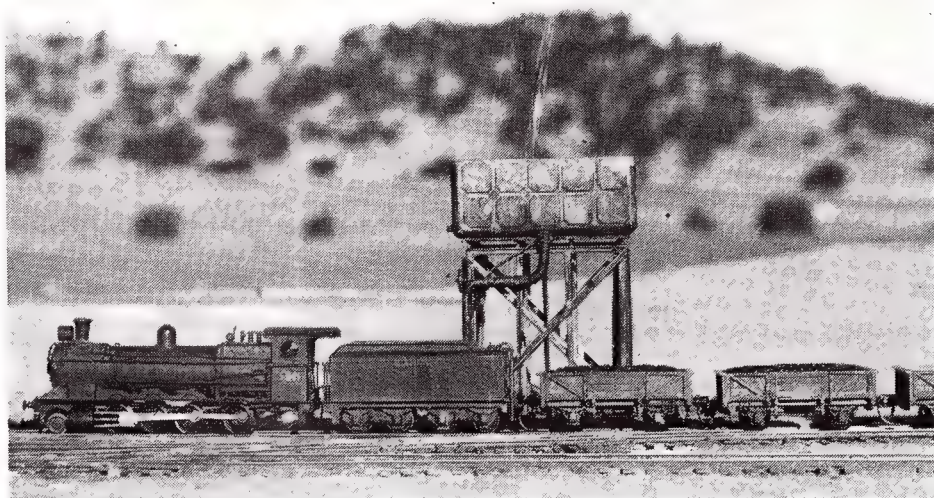
used both indoors with photoflood lighting or
 out of doors in natural light. Out of doors,
 with the sky as a backdrop and the camera at
 a low angle, the results can be quite rewarding.
 Indoors, they need some form of mural back-
 drop, usually a scene from a calendar or what
 have you. One of the best exponents of
 diorama photography is Jim Haire of Railroad
 Model Craftsman fame.

Of course the whole thing is fruitless with-
 out a good camera and lense, and this is where
 the macro lense makes its initial outlay worth-
 while.

Model railway photography is limited only
 by one's ability to observe nature and the
 environment, and to use a camera. In some
 ways it could be classed as an art, thereby
 adding yet another facet to the hobby.

With this being the last issue for 1977
 I take this opportunity on behalf of all of us
 here on the magazine to wish all of you a
 truly Merry Christmas and a warm and pros-
 perous New Year.

Allan Brown.



A N.S.W. D50 Class loco with its train pauses for water at a small stop on the main Southern Line. Loco constructed from brass with a Pitman motor and HP wheels. The 'S' wagons are made of Plastibond cast in silicon rubber moulds. The models are in TT scale and were built by John Huxtable who also supplied the photo.

STEAM IN AUSTRALIA



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N.S.W. Model Railway Club LAYOUT.

Alan Templeman presents phase 2 on this NSW prototype layout.



Ken Edward's 3827 hauls a freight on the inner main through Coal Loader stations.

As I forecast in my earlier article on this layout (A.M.R.M. May/June 1976), which described the layout at the end of the first phase of its development, I would describe later changes in the layout in future articles. This present brief article, with the accompanying photographs, describes the layout's second stage of development.

This second phase of development was mainly scenic. The only changes to the track layout (see plan p.14, May/June 1976 A.M.R.M. for original layout) being firstly, the substitution of the two turnouts at the right hand end of the inner main line (when viewing the layout from the front) where the inner main divided into three storage sidings, by a three way turnout beautifully hand built by Dick Grace (the rest of the trackwork on the layout is Shinohara HO Code 70). This overcame the derailment problems which had previously occurred in this area by allowing a smoother curve to be laid. The second alteration in trackwork was moving the signal box, which had been sited between the up and down main lines (occupying the space originally intended for an island platform) to a more conventional position beside the inner main, allowing the two main lines to be made parallel at this point.

The halt at Coal Loader, which originally had only the single platform on the inner main (with facing crossovers at either end to allow access from the outer main) was upgraded to a full station. The new main platform on the outer main was built by Laurie Kent, and the station building by Phil Kelly. A superb footbridge connecting the two platforms was constructed by Kevin Brown, and a very neat goods platform, with a small shed and loading gantry was constructed by Jack MacMicking and located on the outer coal siding (which became the goods siding).

The layout appeared at the 1975 A.M.R.A.



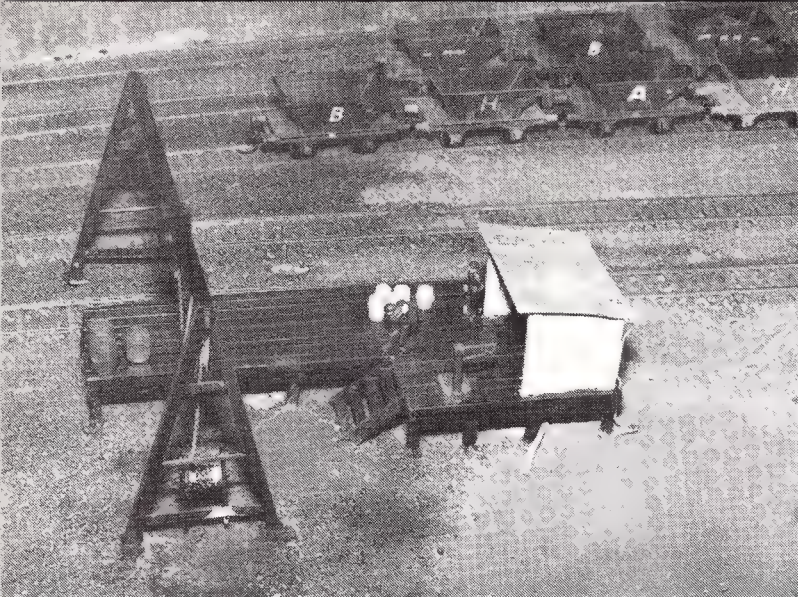
3034 slows to a stop at the original platform on the inner main, with an all stations passenger.



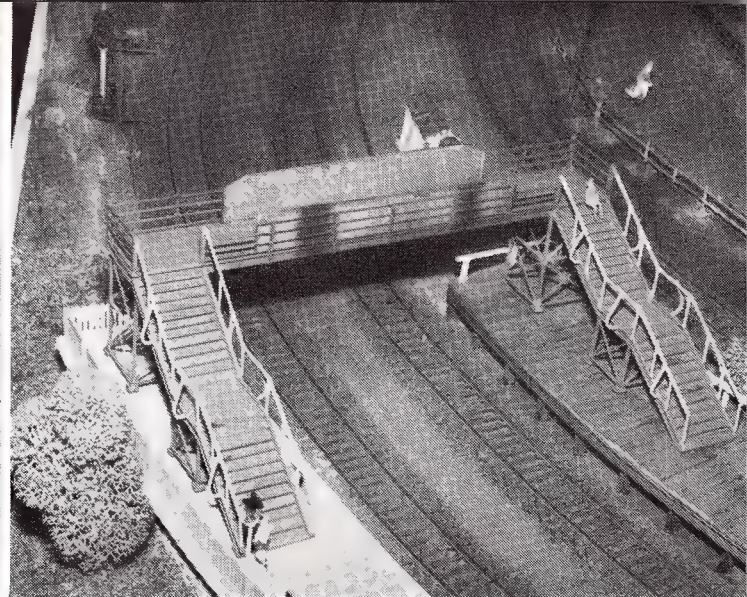
The new main platform and station building.



Ken Edward's beautiful scratch built model of a D53 class shunts the coal sidings.



The goods platform, shed and gantry.



The footbridge, situated at the left hand end of the platforms.

Sydney Exhibition at this stage of its development. It was felt by members of the club that although the changes were seen and appreciated by keen modellers, they were not really noticed by the general public. Following this it was decided to make some more radical alterations and these will be described in a later article.

TRADE PRACTICES ACT 1974

The above act is now in force and contains strict regulations on advertising.

It is not possible for this company to ensure that advertisements which are published in this magazine comply with the Act and the responsibility must therefore be on the person, company or advertising agency submitting the advertisement for publication.

In case of doubt consult your lawyer.

S.C.R. PUBLICATIONS



The station building viewed from the street side.

P.T.C. MISCELLANY — 1

by Paul Rogers

Rolling the Blues

This essay is intended to be the first article of an occasional series dealing with a variety of NSWPTC topics. 'Rolling the Blues' is divided into two sections: those items of freight rolling stock which entered service in the PTC's blue livery, and those vehicles which have been repainted in this colour scheme.

Part 1: New Vehicles

Although the advent of the transcontinental standard gauge caused a number of former N.S.W.G.R. vehicles to appear in a blue livery, it was not until the formation of the Public Transport Commission in 1972 that a colour scheme to replace the black/dark grey livery was put into general effect. The new livery, known as 'teal blue', appears to have been first used on the KLV bogie louvred vans which came into service early in 1973. The list presented below gives the road numbers of those vehicles which have been painted blue when constructed.

Bogie Louvred Vans:

KLV: 18601 — 18650, KLY: 18551 — 18600; 18651 — 18750

The KLV vans differed from the later units in respect of the side body panels. Certain vehicles from the early series have been recoded KLX or KLY: the first classification indicates nidufucatuib fir bigue excgabge ioeratuibm tge second, the fitting of 2CM type 130 km/h bogies (with which cars 18551 — 18600 and 18651 — 18750 were fitted when built).

Bogie Open Wagons:

CDY: 34601 — 34800

Bogie Multi-Purpose (Container/General Purpose) Wagons:

OCY: 14901 — 14950; 14951 — 15000; 15001 — 15070; 34301 — 34400; 34401 — 34500; 34951 — 35050. CFX: 21491 — 21650. ICX: 14801 — 14845; 22101 — 22175.

Bogie Container Wagons:

JCW: 22001 — 22032; 22033 — 22082. OSF: 34801 — 34900.

Bogie Coal Hoppers:

CHS: 35101 — 35300; 35601 — 35700.

Bogie Double Deck Car Carriers:

BNX: 34501 — 34600.

Part 2: Repainted Vehicles

Bogie Louvred Vans:

CLX: 2774, 7945, 11405, 29457. GLV: 31495, 31496. GLX: 29434, 29436, 29439, 29459, 29470, 31381, 31387, 31430, 31458, 31463, 31488, 31492. HLX: 29578, 29584, 29590, 29682. JLY: 33803, 33814. LLV: 2610, 9934, 9949, 9965, 9973, 10035, 10047, 10048, 10068, 10073, 10666, 10684, 11026, 11076, 11106, 11107, 11152, 11254, 11267, 11395, 11434, 11453. MLV: 84. TLX: 29493.

Bogie Open Wagons:

BD: 28192, 28216, 28255, 28301, 28366,

28371. BDL: 33458. BDX: 28592, 33679. CCX: 28529. CG: 31828, 31831, 31852. GM: 6699. GP: 1557, 8057. GX: 1080. HGH: 1019. HGM: 1177, 1425, 1605, 3003, 3310, 3477, 3499, 5860, 7654, 8052, 8291, 8704, 15724. HGX: 1938, 5118.

Bogie Ballast Wagons:

BBW: W.347, W.398, W.400, W.436.

Bogie Flat Wagons:

BBX: 21715. BCX: 21016, 21787, 21792. BEX: 31580, 31584. CBX: 21800, 21813. SBC: 21018.

Bogie Covered Vans:

ABC: 31320. MBC: 22911.

Bogie Hopper Wagons:

FRH: 28777, 29098. FWH: 32261.

Bogie Powder Vans:

BPV: 25733, 25736, 25740, 25764.

Four Wheeled Covered Vans:

ABV: 4714, 7591, 13748, 14904.

Four Wheeled Open Wagons:

K: 23005, 27409. S: 2098, 15277, 17480, 18331.

Notes:

a. The CLX cars were repainted blue at the time of their conversion from LLV units.

b. MLV.84 is of the 18 tons capacity type.

c. GLX: 29470 has been rebuilt as a semi-louvred van. The present style is similar to that of the MLK wagons. The accompanying photograph illustrates the differences between this vehicle and a conventional GLX van.

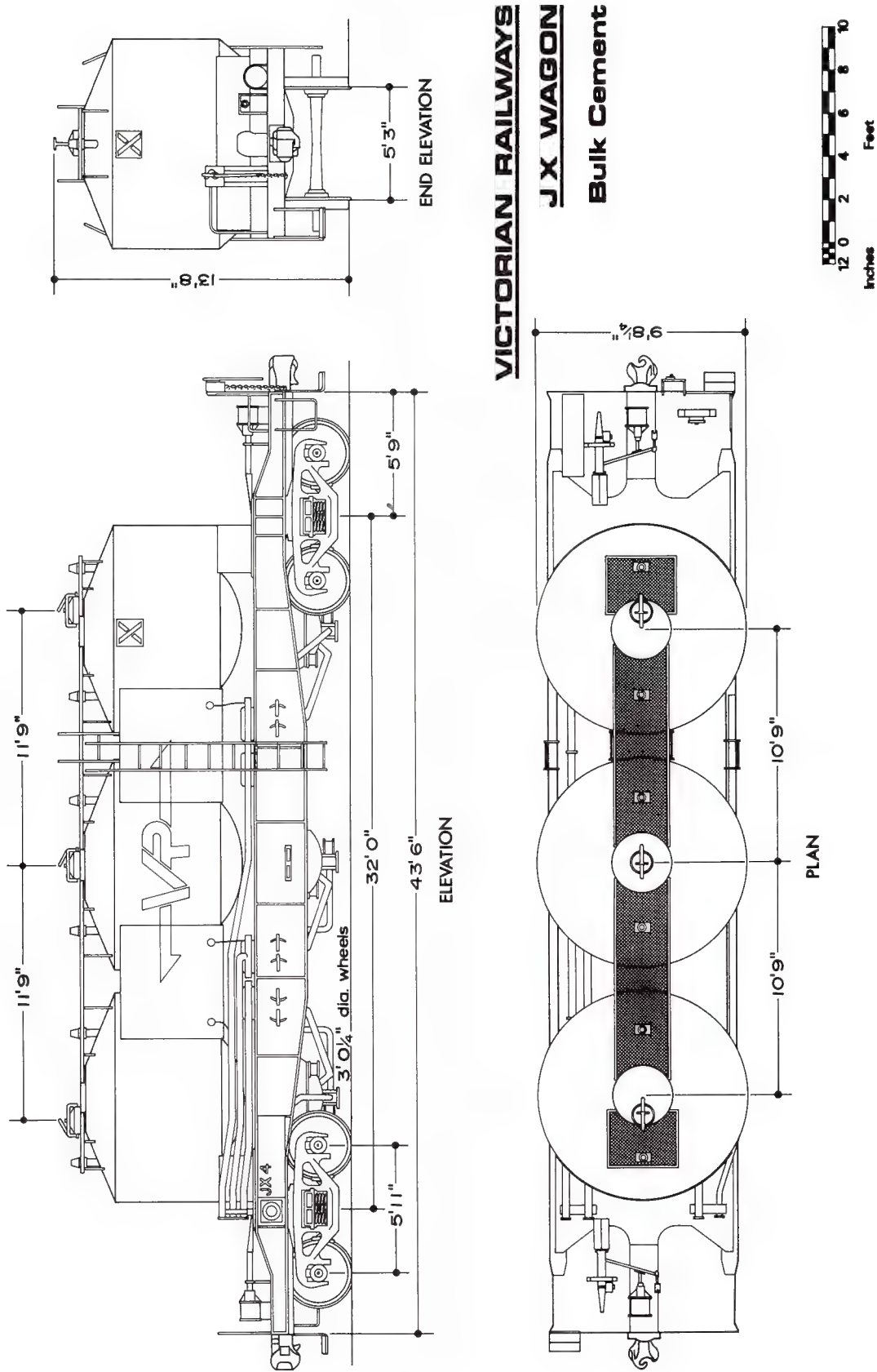
d. MBC: 22911 has large side panels, on which appear the Mk. 2 PTC logo.

Continued on page 16

PROTOTYPE PLAN

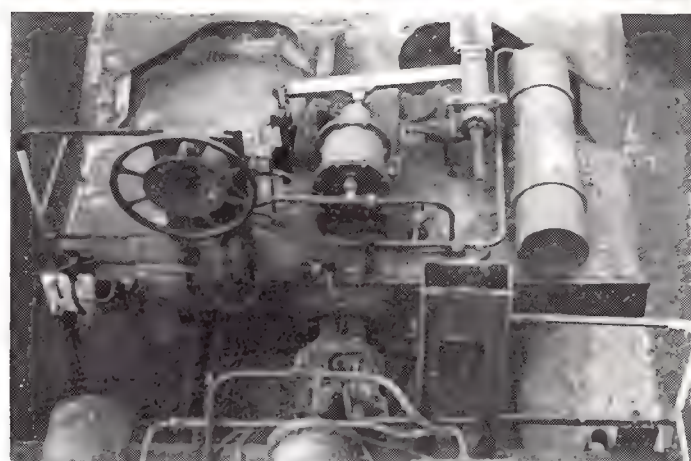
V.R. 'JX' Bulk Cement Wagon

In 1963 the first of an order of 20 JX wagons were introduced to the Victorian Railways. The wagon has a capacity of 50 tons and a tare weight of 25 tons 3 cwt and can carry either bulk cement or flour, although it is classified as a Bulk Cement Pneumatic Discharge wagon. It is gravity fed through the top hatches and is discharged pneumatically by air pressure at 20 lb per square inch.



VICTORIAN RAILWAYS
J X WAGON
Bulk Cement

Drawn by Ian Stevens, April 1976.



Note the differing handbrakes. The earlier version had a wheel style while the latter vehicles had a ratchet type. All photographs by Graham Ball.

From its classification prefix the wagon is a bogie exchange vehicle and can run on both the broad gauge of the V.R. and after a swap of bogies it can run on metals in N.S.W., S.A. and W.A. It can of course run on the broad gauge of South Australia.

The JX class is painted the usual V.R. red-brown and is lettered in white on a black background. The vehicle is all steel construction.

On broad gauge the JX is fitted with bogies of 5'11" wheelbase while the standard gauge bogies have a 5'6" wheelbase.

JX1-45 were constructed at Newport Workshops 1963-1968.

46-58 were constructed at Newport Workshops 1968. (This order was terminated short of five vehicles to increase the number of FX's in service.)

59-104 were built at Newport Workshops 1976.

105-108 under construction at Newport Workshops 1977 (none on assembly line by 20/2/77, apparently in service). This completes the current order for 50 wagons, Numbers 59-108.

VARIATION GROUPS WITHIN THE CLASS Handbrake grouping

Numbers 1-45 are fitted with ratchet or improved ratio ratchet handbrakes, similarly fitted to VLX, VP, VF, etc.

Numbers 46-108 are fitted with the Miner handbrake (wheel), as fitted to VSX, ELX, FX, etc.

Air feed/Discharge Pipes grouping

Numbers 1-45 were fitted with three air feed pipes along the No. 1 side. As well the discharge operating levers were mounted through the underframe, the levers projecting out both sides. The other feature is the sets of rectangular holes in the support plates between the hoppers. The openings are on both sides of the wagon.

Numbers 46-108 are fitted with a single air feed pipe along the No. 1 side. There is a different set of operating levers as well as an instruction plate. A small ladder is provided beneath the plate so it can be reached for easy



reading. There are no levers in the underframe, all the levers used are on the No. 1 side. There are also no rectangular holes in the support plates, although there are cutaways for the pipe fittings on the No. 1 side.

Note A

Since early 1975 (information derived from photographs) the railways have carried out a conversion programme for vehicles 1-45. The changeover involves removal of feed pipes and operating levers. Pipes and equipment as installed on 46-108 is fitted. The holes in the underframe of the older gear are filled in and ground flat, an instruction plate is provided at the same location as group 46-108 BUT a small ladder is not provided. The rectangular holes on the No. 2 side are left untouched whilst those on the No. 1 side are modified to suit the new piping.

Note B

When JX1 was first built in 1963 it was fitted with the later style air feed pipes (photo

in VR Annual Report). Whether this wagon was later converted to the triple pipe arrangement is not known, but is currently in service with a single feed pipe.

General

Irrespective of group number all air feed pipes are on the No. 1 side and the hoppers are numbered 1-3 from the No. 2 end.

The plan was drawn by Ian Stevens from information supplied by Bob Dunn, Bob Gallagher, Ian Weickhardt and Peter Vincent. Graham Ball supplied the photographs that illustrate the JX class.

The ADVERTISING DEADLINE for the January/February 1978 issue closes on 16.12.77. All copy must be in hand by the said date.

PTC MISCELLANY — 1 "Rolling the Blues"

Continued from page 14

e. The BBW wagons are numbered in the "W" series of the Commission's service stock roster.

f. The BPV cars mentioned are those rebuilt from MRC/MBC units.

g. The ABC and ABV cars were rebuilt from TRC and CV types respectively. The converted units are used for biscuit traffic a/c Arnotts Pty Ltd.

The notes on the repainted vehicles were compiled from the writer's observations made during the past 3 years.

It is intended to present a further list of blue freight vehicles in the near future.

The 1950s are sufficiently in the past to warrant an examination of certain of the freight vehicles then in service. The next segment in this series will look at some interesting vehicles which are either now extinct or very rare.



WEATHERBOARD HOUSES

Article by G. Stillman.

Photographs by S. Stillman

Weatherboard and corrugated iron were the commonest building materials used in the older Queensland homes and as the majority of these are still standing, models of weatherboard houses have an unquestionable place on a railway layout. The particular house that has been chosen to model has a hip roof design which can form the basis for modelling other house styles. The model was constructed along conventional lines. To avoid boring the more experienced modeller, I will give only a brief outline of the steps involved only detailing those operations likely to cause difficulty for a beginner.

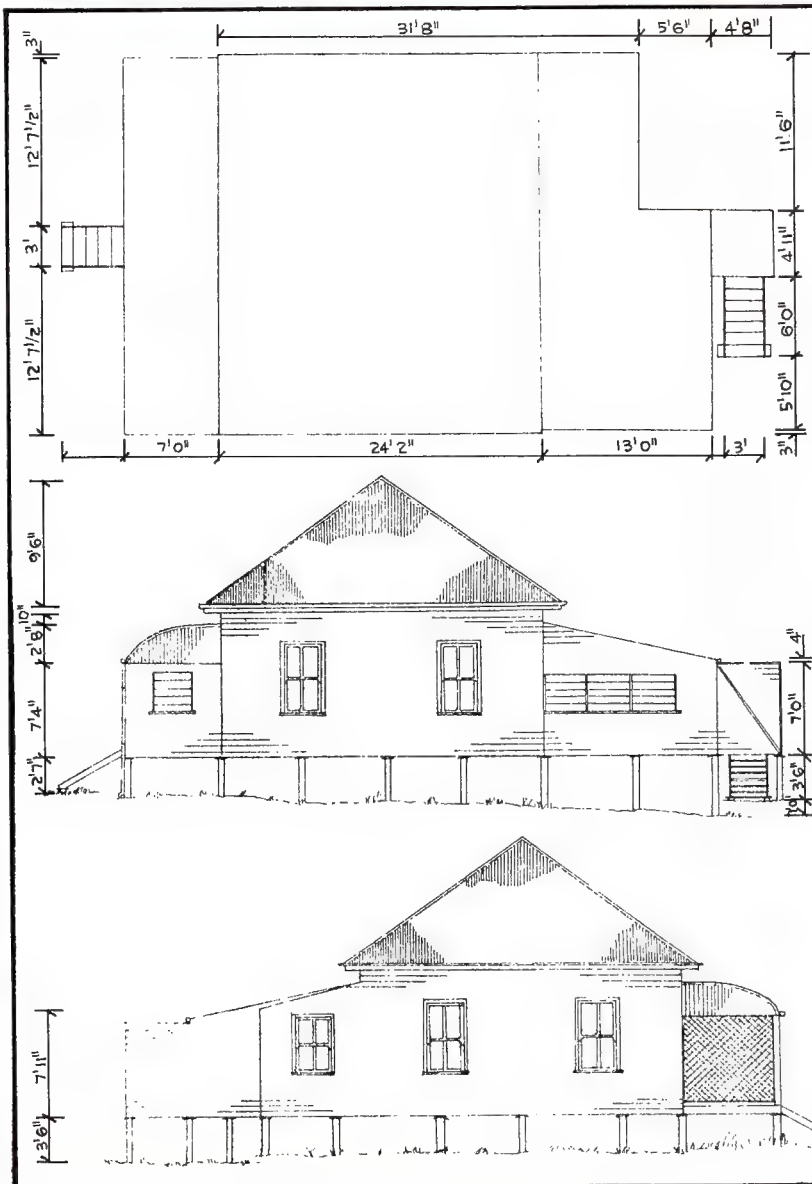
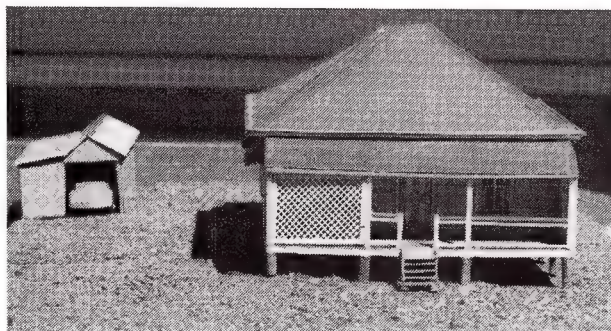
The verandah and landing walls were cut from 1/32" balsa whilst the remaining walls were cut from 1/16" balsa as their thickness is unimportant. These were scribed to represent 6" weatherboards. Floors were cut from 1/16" balsa and the three basic boxes of the main house were fitted together. (See Figure 1).

The doors and windows were added before the roof was attached. The planked door was made from scribed 1/32" balsa and set flush into the back of the door opening to give a recessed effect. The verandah door was made from 1/32" balsa overlaid with cardboard. (See Figure 2) Celluloid and balsa stripping

were used to construct the windows. Note: The doors and windows were painted during construction.

The assembly of the landing is shown in Figure 3. The diagonal brace shown in the plan was attached to the landing wall before the remaining wall was added. The nylon mesh lattice and the interior of the landing had to be painted in the process of construction. The roof on the landing was cut from cardboard to resemble flat iron.

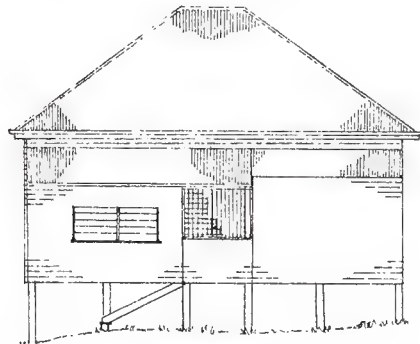
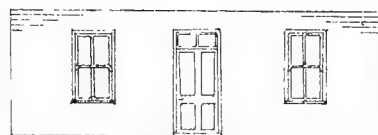
The roof was easily fixed onto the back two rooms; but the hip roof posed a different problem. Firstly, a tight fitting ceiling of 1/16"

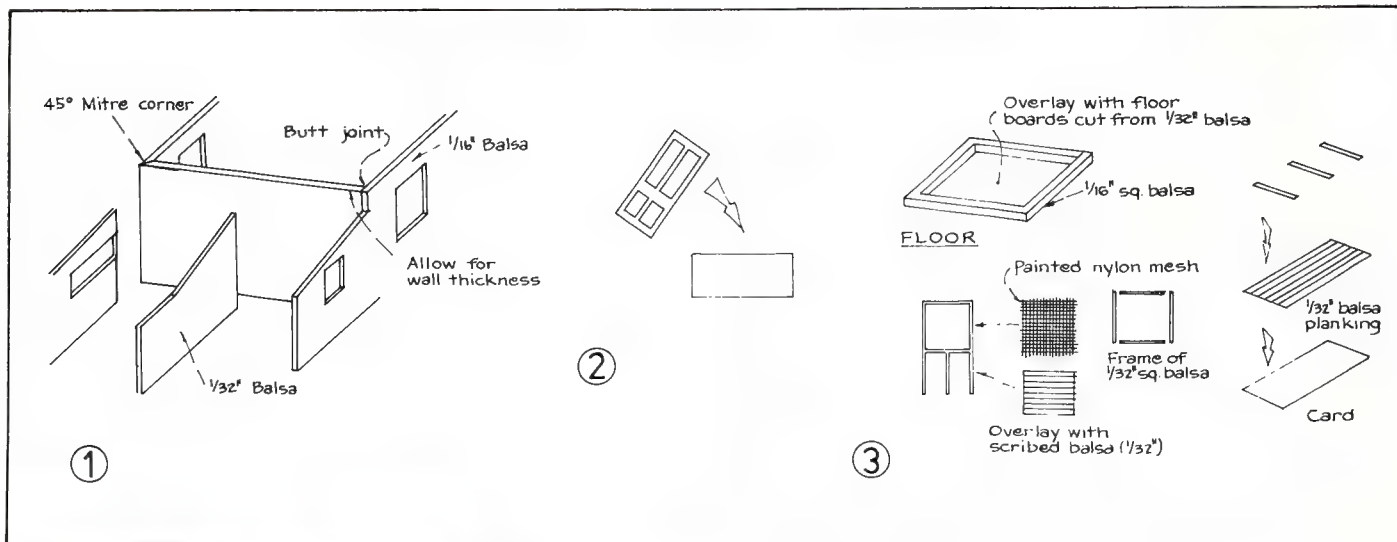


WEATHERBOARD HOUSE COOROO QLD.

Drawn by G.A. Stillman 3.3.76

SCALE Half H.O.



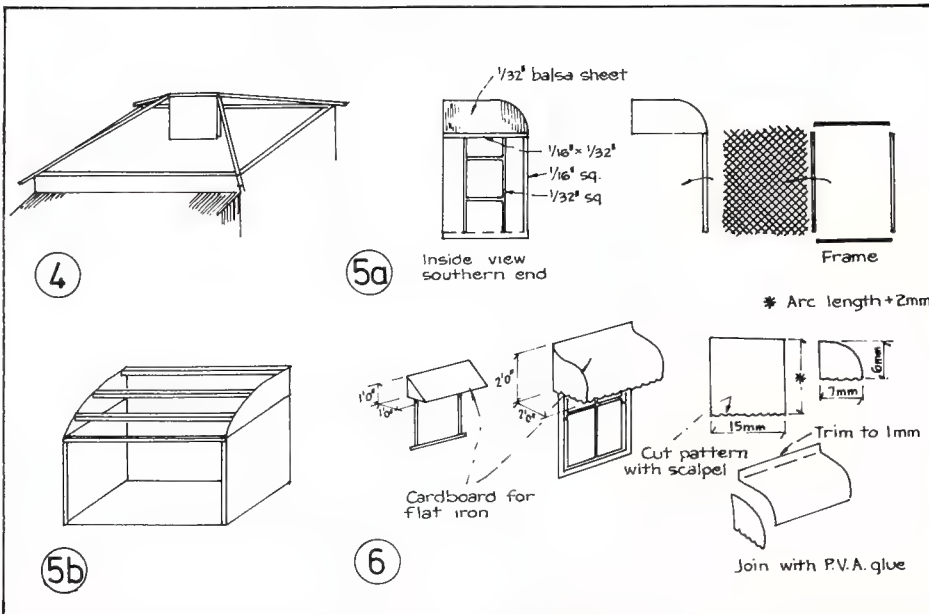


balsa was glued into place. A piece of 1/16" balsa as wide as the length of the ridge of the roof and as long as the height of the roof was glued vertically in a central position on top of the ceiling so that its top edge will form the ridge of the roof. (See Figure 4). Four rafters were then positioned as shown. The corrugated sheeting was cemented on top of these. A thin strip of paper represented the ridge capping.

The verandah floor was constructed in a similar manner to that used for the landing floor. Figure 5A shows the method used to construct the verandah walls. These were painted as they were assembled. The verandah walls and floor were then cemented together and fitted onto the house. Four lengths of 1/16" x 1/16" balsa were fitted tightly between the walls as shown in Figure 5B. These formed a support for the curved roof which was cemented on later. The remaining two posts supporting the roof were glued in place. The front lattice was fitted in place. The two posts at the top of the steps were glued into position before the railings were attached. This latter task is a job for a good pair of tweezers and a little dexterity. Again, painting had to be carried out before any of these parts could be glued in place.

A length of 1/8" square balsa was rounded with a scalpel to make stumps. The steps were made from cardboard strips. The fascia, guttering and downpipe were then cemented in position. Painted hook up wire is suitable for the downpipe.

Finally, the awnings were fitted (See Figure 6). The angled awnings were made from cardboard with balsa supports. These were placed



over the louvres. Cardboard was also used to make the hooded awnings which were fitted to the remaining windows.

As already noted, painting usually had to be done during construction. The colour scheme used was as follows:-

Roof and awnings — red; walls — light green; window trim, fascia, lattice front door trim, lower two verandah rails inside verandah end walls — creamy yellow; landing door,

guttering, window sills, top verandah rail — dark green; verandah and landing floors, inside landing walls and steps — weathered wood.

The four rooms with a central hallway under a high roof is the basis of many other designs in weatherboard houses. A quick look around the older homes of your town will give you many ideas for adapting this plan in order to construct other house styles.

Note: All balsa sizes given are for H0.

RE-USING FLEXIBLE TRACK

Flexible track can be recovered from a superseded layout and re-used but, if like me you set it firmly in ballast, you should not take its accuracy for granted.

Conventional track gauges are good for accuracy in hand laying track but are not well adapted for testing track once laid. If slid along the track, inaccuracies will cause binding but it can be hard to tell whether the gauge is too narrow or too wide.

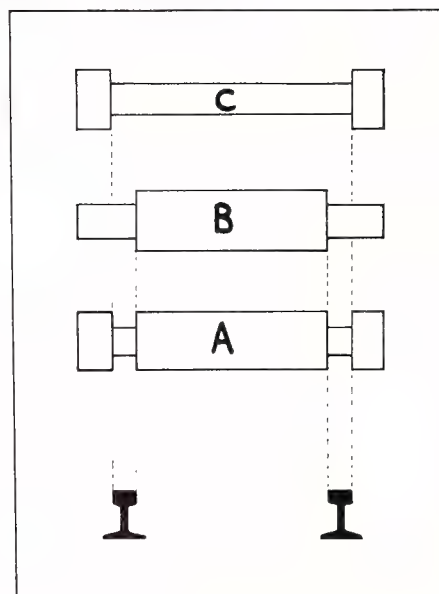
To overcome this I made the three roller gauges (sketched). For "N" gauge track I used 1/4" diameter brass rod and the grooves were turned with a tool made from a hacksaw blade. This only needed slight stoning to bring it down to the width of "N" gauge rail head.

Gauge "A" is conventional and can be used to hold rails accurately for hand laying track.

Gauge "B" is an "inside" gauge, which detects errors when the gauge is too narrow whilst "outside" gauge "C" detects errors when the gauge is too wide.

Track can be checked quickly by rolling each gauge ("B" and "C") along the length in turn.

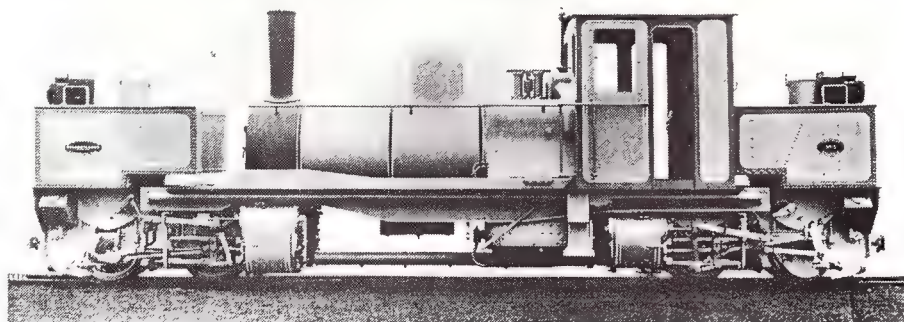
D.J. Thomas



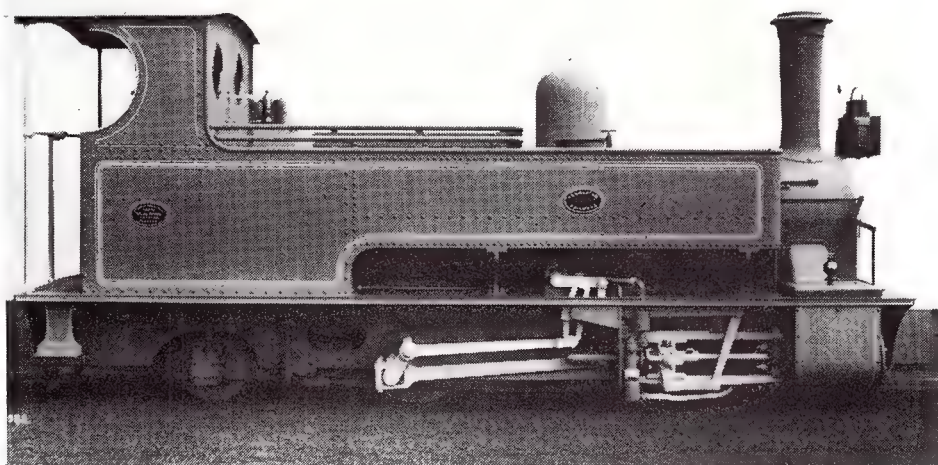
LOCOMOTIVES OF THE NORTH-EAST DUNDAS TRAMWAY

A. Parnell and J.J. Bevan

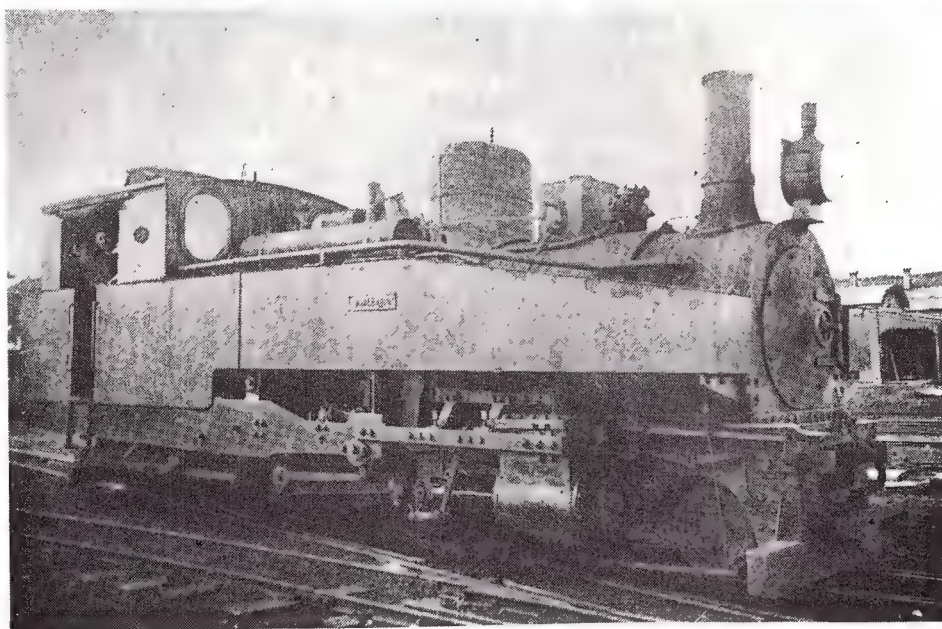
Drawings by A. Parnell



Builders photo of K-1 (TGR)



Builders photo of G-1 (TGR)



Hagan's Patent locomotive J-1

The west coast of Tasmania was once the home of a large number of 2'0" gauge light railways. The area round Zeehan was discovered to be rich with silver, lead and zinc. The Tasmanian Government in 1891 built a 3'6" gauge railway connecting Zeehan to Strahan on Macquarie Harbour enabling the ores to be shipped to Hobart for treatment. The West Coast of Tasmania is a rugged, mountainous wilderness sparsely populated even today and, prior to the mining boom which started in 1872, was largely unexplored. The area had a high annual rainfall caused by the "Roaring Forties".

Zeehan was the home of several mines, and a 2 foot gauge tramway — The Zeehan Tramway Company Ltd. — as well as 3'6" gauge sidings serving these mines. When, in 1894 a line to new discoveries of ore at Mount Read was approved, it was natural that a 2' gauge line was built. The North East Dundas Tramway ran five miles to the north-east generally paralleling the 3'6" gauge line to Dundas; the line then diverted to the east and wound around the mountain for 13 miles to Williamsford where an incline brought ore from the mine. The line was extended south to the new smelters and to serve Grubb's silver mine. In 1910 a two mile branch was built from a place about five miles from Zeehan, which was then named Nickle Junction, to Griffith to service the British Zeehan mine.

The line to Williamsford was built with a ruling grade of 1 in 25 and a ruling curve of 99 feet radius. The line would around the sides of the mountains reducing the amount of earthworks to a minimum. The line was renowned for its crossing of the gorge below Montezuma Falls where the wooden trestle was often enveloped in mist from the falls. The line was operated by four classes of locomotives (described below) which included a most unusual articulated locomotive from Germany and the first Beyer Garratt articulated locomotive. Rolling stock was simple, mainly steel underframed with wooden bodies and bogies. The majority of the ore haulage was in wagons belonging to the mining companies.

The Mount Read mine was connected by aerial ropeway to the smelters at Rosebery and the line was closed by 1932 as the economic justification for it passed. Very few traces of this line are said to exist now.

Sources:

A comprehensive history of the railways of the west coast of Tasmania and, in particular, the North East Dundas line does not exist. Some information exists in:

'Australian Railway and Locomotive Historical Society Bulletin' No. 66 April 1943

'Railroading in Tasmania' by Thomas C.T. Cooley, Government Printer Hobart 1962

'Locomotives of Australia' by Leon Oberg, A.H. & A.W. Reed Sydney 1975

'A Pictorial History of the Railways & Tramways of Western Tasmania' by Ronald K. Aubrey, OBM Bookshop Hobart 1975

G Class 0-4-2T

This class of locomotive was the original type ordered for the North-East Dundas Tramway but the Krauss H class were placed in service first. The first of the class, G-1, was built by Sharp, Stewart & Company of Glasgow, Scotland in 1896 and carried builder's number 4189. G-2 was built in 1898 numbered 4432. These 0-4-2T locomotives must have made a considerable difference to operations as they were much larger than the H class. On 17 May 1899 G-1 suffered a boiler explosion while standing in Zeehan yard. Both crew members were killed and the locomotive was totally destroyed. A replacement engine was built by Sharp, Stewart in 1900 and was numbered G-1. Both these locomotives were still in use when the line was closed in 1932 and were both sold to the Isis Central Sugar Mill in Queensland where they remained in service until 1962.

Dimension:

Cylinders: 12" x 16"
Driving Wheel Diameter: 30"
Tractive Effort: 7680 lb
Boiler Pressure: 140 lb/sq in.
Weight: 19.75 tons

H Class 0-4-0T

This class of small 0-4-0T was introduced as a stop gap measure to the North-East Dundas Tramway while waiting for the delivery of the G class. They were built by Krauss Locomotive Works in Germany and numbered H 1-4. The first three were bought secondhand but H-4 was purchased new. The first two were bought in 1897 when the first section of line was opened and were builder's numbers 2180 and 2589. In 1899 the remaining two locomotives were obtained; H-3 was builder's number 2459 and the new locomotive H-4 was number 4080.

As soon as larger locomotives become available they were released to shunting work and, starting in 1906, they were (exception H-1) sold to other operations. H-2 and H-3 were sold to the Victorian Public Works Department and H-4 to a Tasmanian colliery; later H-2 and H-3 were resold to the Corrimall Colliery, N.S.W., and the Rubicon Timber Co of Victoria respectively.

Dimensions:

Cylinders: 7" x 12"
Driving Wheel Diameter: 24"
Tractive Effort: 3430 lb
Boiler Pressure: 175 lb/sq in.
Weight: 5.5 tons (approx)

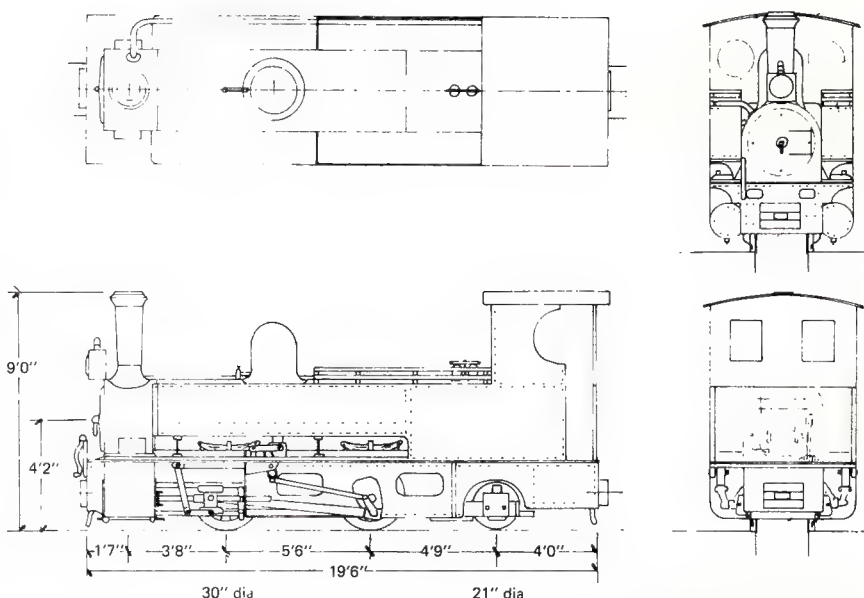
J Class 2-6-4-OT

This unusual locomotive was built in 1901 by Lokomotivfabrik Hagens of Erfurt, Germany. It used a patented method of connection the second set of four driving wheels to the single pair of cylinders. A normal set of main and side rods drive the front six driving wheels. The rear four driving wheels are connected to the front driving wheels by a complicated series of levers and rods which compensate for the swing of the rear drivers on curves. (A full description can be found in Australian Railway and Locomotive Historical Society's Bulletin No. 66 of April 1943 p49-50.) This locomotive was the most powerful locomotive on the two foot gauge having a tractive effort of over 23,000 pounds, thus being more power than the K class Garratts. It tended to damage track due to its weight and large number of wheels it was supplanted by the Garratts and was withdrawn in 1929. It was later scrapped.

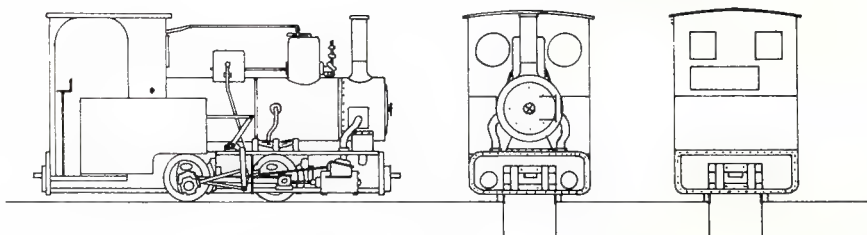
Dimensions:

Cylinders: 15½" x 15¼"
Driving Wheel Diameter: 31½"
Tractive Effort: 23,885 lb
Boiler Pressure: 195 lb/sq in.
Weight: 41.5 tons

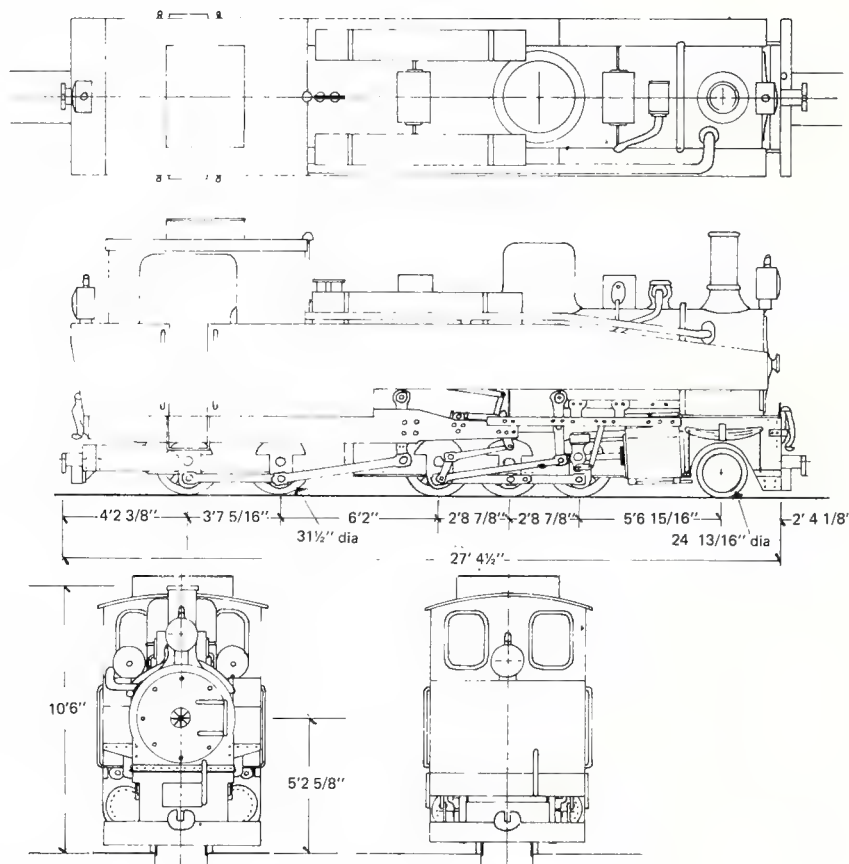
TASMANIAN GOVERNMENT RAILWAYS
G class Locomotive 2'0" gauge
Scale: H0 1:87
Drawn: A. Parnell



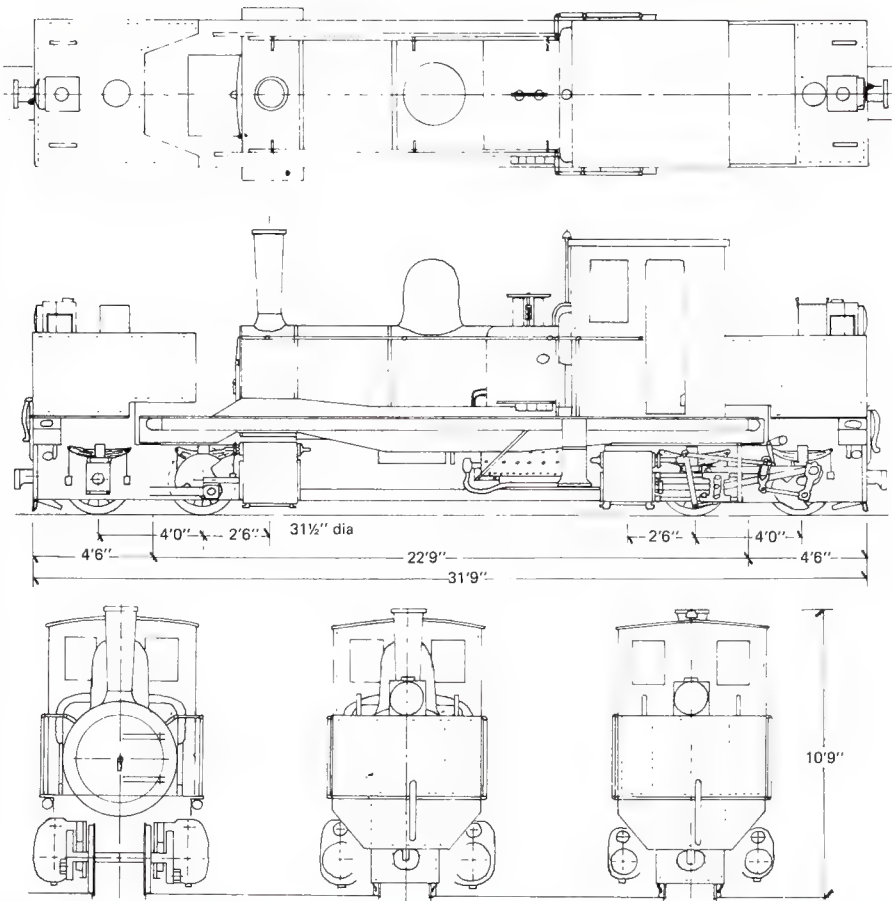
TASMANIAN GOVERNMENT RAILWAYS
H class Locomotive 2'0" gauge
Scale: H0 1:87
Drawn: A. Parnell



TASMANIAN GOVERNMENT RAILWAYS
J Class Locomotive 2'0" gauge
Scale: H0 1:87
Drawn: A. Parnell



TASMANIAN GOVERNMENT RAILWAYS
K Class Locomotive 2'0" gauge
Scale: H0 1:87
Drawn: A. Parnell

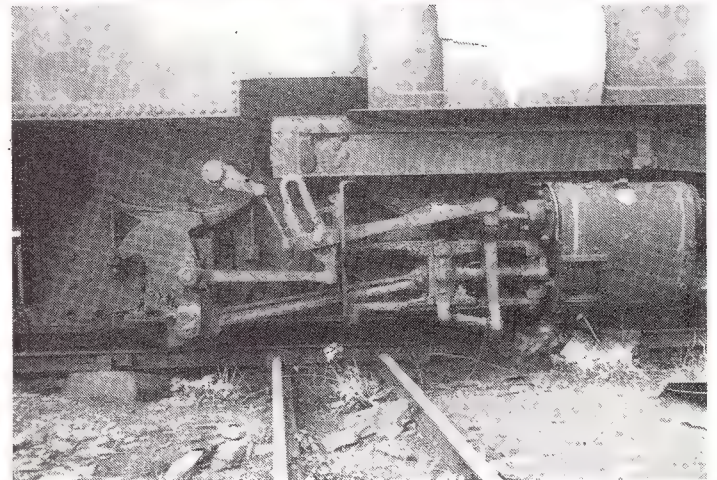
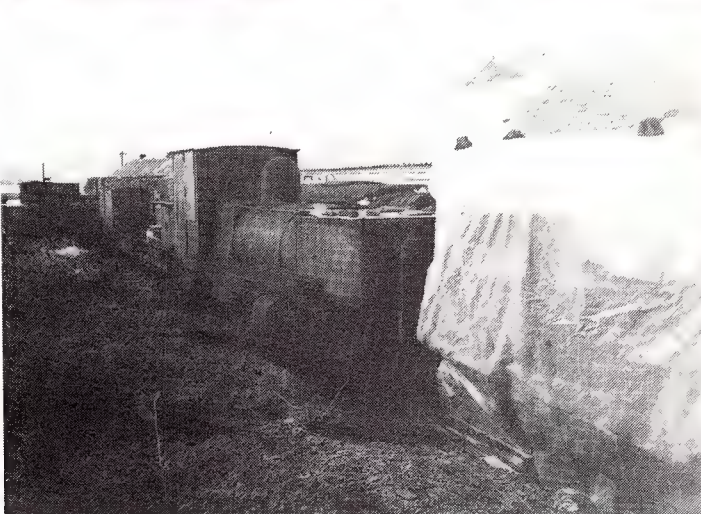
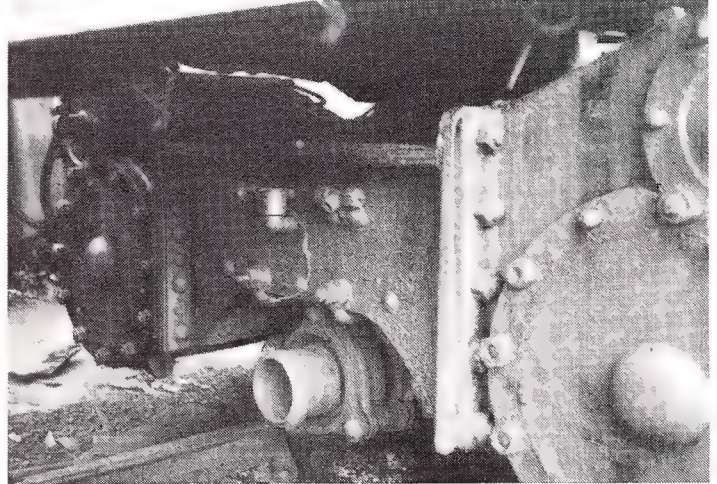
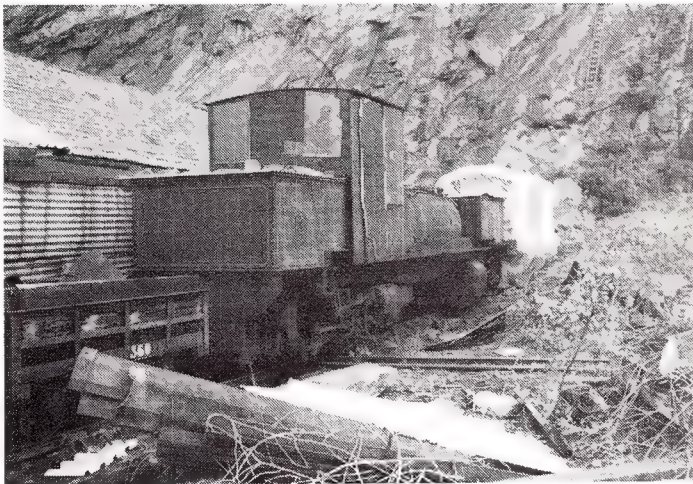


K Class 0-4-0 + 0-4-0

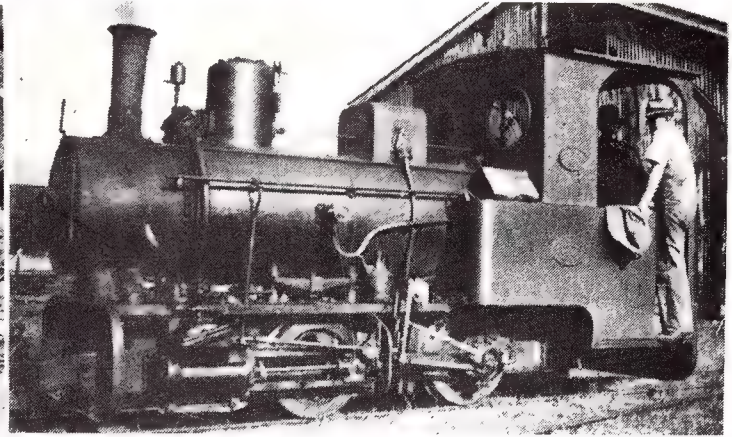
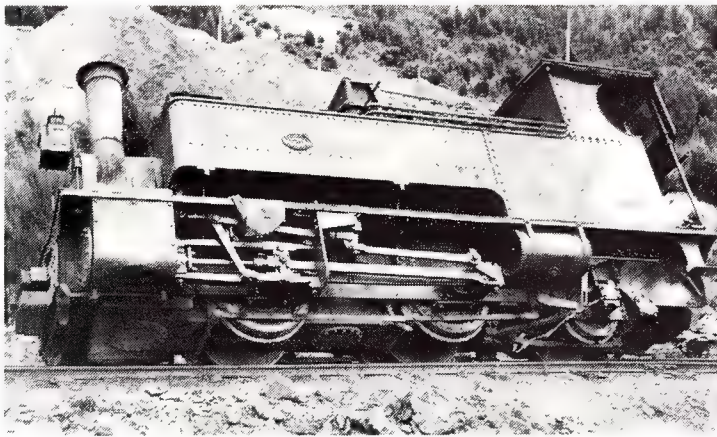
These two locomotives, numbered G-1 and G-2, were the first Beyer-Garratt locomotives ever built, being constructed at the Beyer Peacock works at Gorton, England, and delivered in 1909. They were compounds, having the high pressure cylinders under the cab and the low pressure cylinders under the smokebox. Unlike any other Beyer-Garratt they have the cylinders mounted on the insides of the engine units. This, it seems, caused the cab to become too hot and later types have relocated cylinders. These locomotives were very successful and were used until the line's closure. In 1947 Beyer Peacock purchased G-1 for their museum. A locomotive consisting of parts from both G-1 and G-2 was sent to England, the remaining parts were eventually scrapped. When Beyer Peacock ceased locomotive production in the late 1960's G-1 was sold to the Welsh Festinog 1'11 1/2" gauge railway. It was proposed to convert it to the narrower gauge but it now resides in the (British) National Railway Museum at York.

Dimensions:
Cylinders: 11'

Dimensions:
Cylinders: 11" x 16" — high pressure
17" x 16" — low pressure
Driving Wheel Diameter: 31 1/2"
Tractive Effort: 17,000 lb
Boiler Pressure: 195 lb/sq in
Weight: 33.5 tons

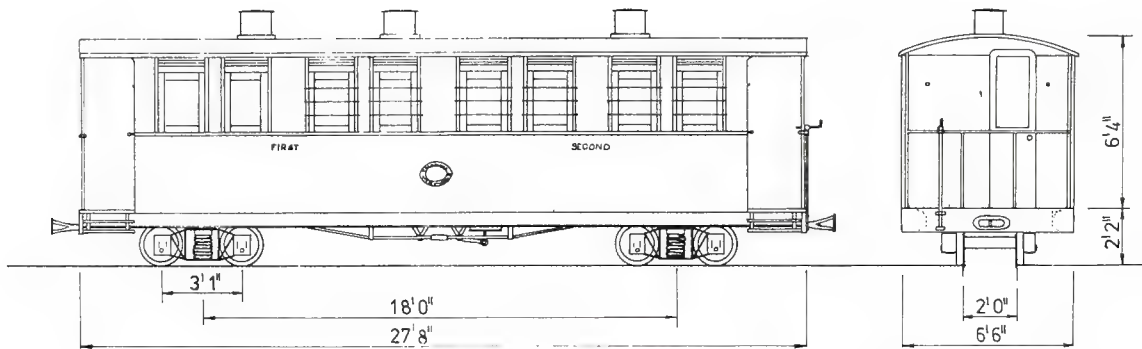


The remnants of K-2 (K. Pratt)



G-1 derailed. Note the water tanks between the frames. (Winter's Studio, Burnie)

A member of the H class (TGR)



NORTH EAST DUNDAS TRAMWAY COMPOSITE CARRIAGE

PLAN PREPARED
FOR A.M.R.M. BY
A. PARNELL

A CAKE TIN TURNTABLE

By Ron Wigglesworth

The extension of my N scale layout to the small terminus of Sheepstation Creek meant that I had to make provision for turning locomotives. I rejected a "hand crane" as unacceptable while a triangle would occupy too much space, so it had to be a turntable. None of the 3 turntables available in Melbourne hobby shops were suitable, so I decided to attempt to scratchbuild one.

For my first attempt the workings of an old

clock were used to provide slow turning, and the pit and table itself were constructed from Plastruct. After many hours work the whole mess was thrown into the scrap bin, and it was "back to the drawing board" for a fresh set of ideas and a new approach to the problem.

The main problem with my first attempt had been the turntable pit, and the failure to solve this had been the principal reason for the demise of T/T Mark 1. The solution to the pit

problem for T/T Mark II was provided by my wife (they are helpful sometimes) who suggested that I use the bottom portion of an old plastic cannister. This item proved to be of too small a diameter to be useful but the local hardware shop soon provided me with a 7" diameter aluminium cake tin (this particular type has a removeable bottom) which was suitable.

A 6" diameter tin would have been better, but I do not think that they make them that small. The 7" diameter converts to roughly 93 feet in N scale and the V.R. did not have a turntable that big, but scratchbuilders of my calibre cannot be choosers. (N.S.W.R. modellers in N scale should note however that 90 ft. turntables exist on that system.)

The first alteration to the pit was to reduce the depth, as 20 ft. was rather excessive. A 7" diameter disc of 3/4" thick chipboard was screwed to the aluminium disc which formed the removeable bottom of the tin. The turntable bed was cut and shaped from a piece of scrap wood, later to be disguised with Plastruct, and located and glued to the disc after checking that the centres coincided to provide true alignment when in use. The track was then centrally located on the bed and pinned down.

Leads soldered to the bed track were threaded through holes in the bed and disc and then attached to two copper braided brushes

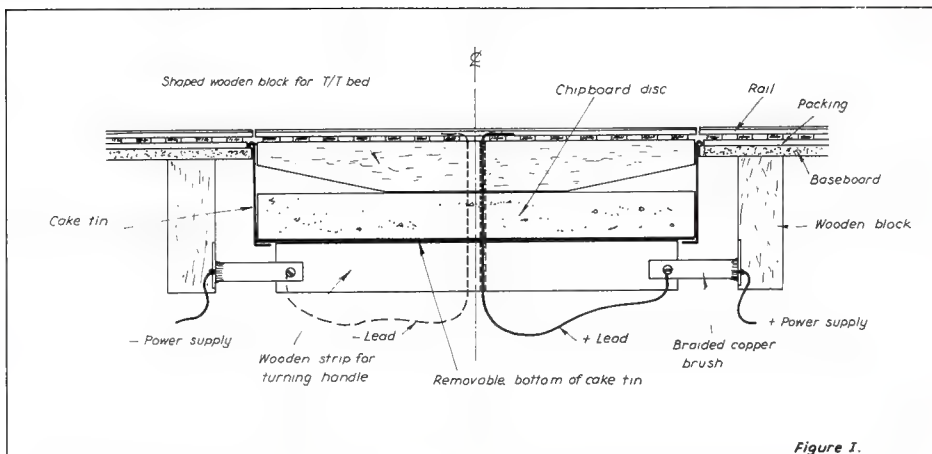
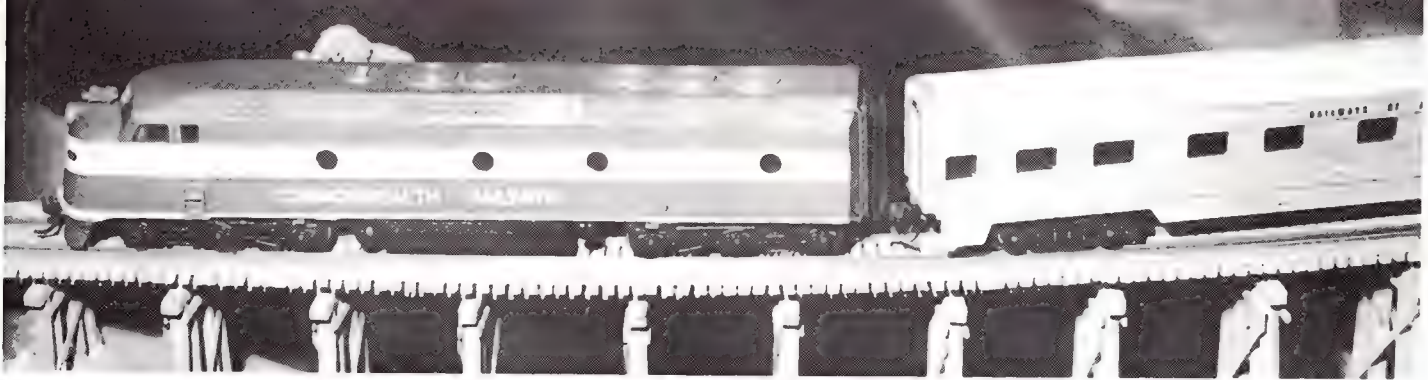


Figure 1.

Continued on page 34



SCENIC ROUTE

Readers are invited to submit photos of their own models for inclusion in the pages of the Australasian Model Railroad Magazine. Photos must be black and white and size does not matter. Pack the photos between stout card and post to S.C.R. Publications, P.O. Box 235, Matraville. NSW 2036.

SCENIC ROUTE this issue covers a visit of AMRM staff to Keith Nelson's layout. The top photo shows visiting ANR CL1 (owned by Neil Graham) heading a consist of LIMA Indian Pacific cars across the timber trestle, which is a feature on Keith's scened layout.

The photo to the left shows the same consist passing a lineside shack. Note the detail surrounding the shack.

The photo below left shows the elevated coal stage on the Victorian Railways orientated layout.

Directly below is a photo of a VR cattle wagon. All photos by Bob Gallagher.



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A 930 CLASS CONVERSION

Bob Burton describes the conversion of a Lima 44 class to a South Australian 930 class.

The requirements of my proposed South Australian Railways based H0 scaled layout included diesel electric locos and when the Lima 44 class became available I purchased two of these with the aim to convert them into 930s.

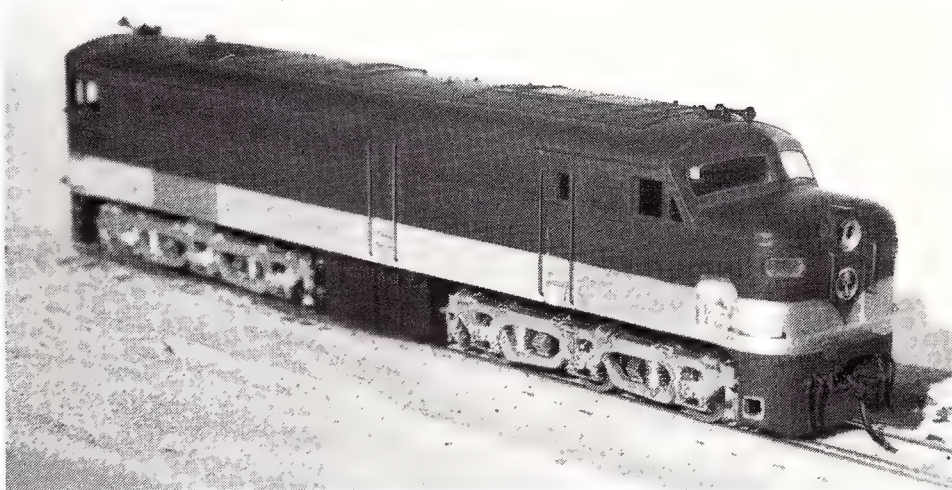
After careful perusal of the Lima loco I found that there were marked differences as in the two prototypes. The staff exchanger units are at the wrong end of each side of the loco, the number boards at the front were too high, there were two instead of one marker lamps and they were in different places. The buffing plates on the 44 would have to go, as would the paint scheme. I was aiming to model one of the engines in the 941 to 955 range.

In addition to these differences I found a couple of errors in converting from the original prototype to the model. Firstly, the wind-screen appeared to be too pointed when viewed from above, and it looked as if the centre bar was too far forward. Measurement of the prototype solved this mystery. The centre bar is correct but each side frame is set too far back. I corrected this (aesthetically) by filling the centre bar back to about half the original thickness. It looks much better, although not exactly correct.

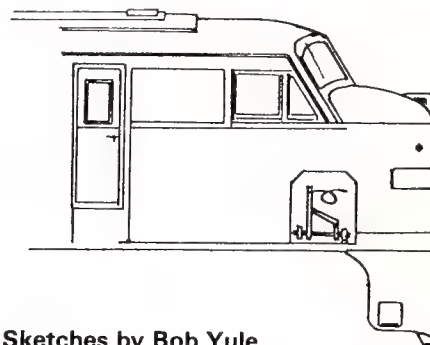
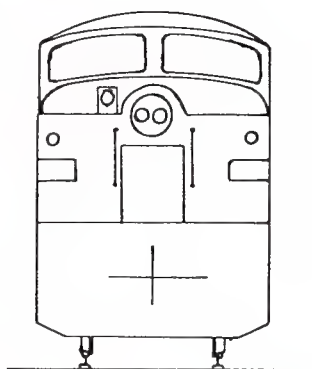
Secondly, there was no front step recess in the skirt and the two rear ones were not square but rectangular. These errors were corrected with a small file and a drill.

The actual conversion was then carried out by filling the original staff exchanger recesses with Plastibond and styrene and then the new ones were cut in the correct places. Refer to the diagrams for the dimensions. Each recess was backed by .020" styrene spaced back by .040" strips around the perimeter. Modifications had to be made to the chassis by removing the vertical part (at the right hand front) and just setting the rear part back with pliers. The staff exchanger mechanisms were made from wire and styrene and fitted to their recesses.

Continued on page 31

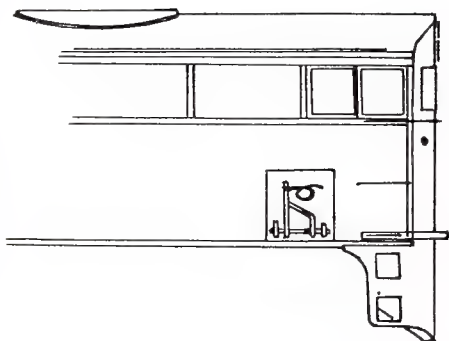
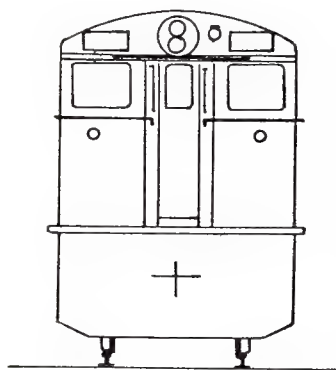


Repainted model by Bob Burton.



Sketches by Bob Yule

Comparison of cab window angle. The reworked model is on the right. Photo of models by Bob Burton.



The 930 Class Diesel Electric Locomotive of the S.A.R.

Compiled by Phil Curnow. Unless otherwise noted all photographs by the author.

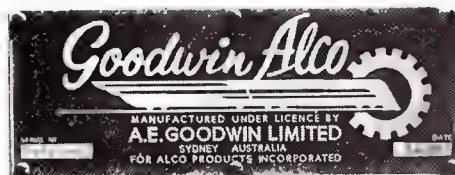
On 10/8/1954 tenders closed for the supply of six diesel electric locomotives to the South Australian Railways. The successful tenderer was A.E. Goodwin Pty. Ltd. of Sydney and class leader number 930 was the first locomotive they had built under license from the American Locomotive Company of New York (ALCO). This diesel worked its way from Goodwins to Adelaide being bogie exchanged at Bandiana near Albury onto broad gauge. It was issued to traffic by the SAR on 20/12/1955, the design being the ALCO World model.

930 to 935 were all single cab locomotives however 936 onward were fitted with a second cab and later in this article I'll give detail comparisons between the various models of the 930 class and the NSWGR 44 class which was introduced in 1957. The 930 was the third class of diesels introduced by the SAR. Two 350 class English Electric shunters were issued in 1949 followed by ten 900 class English Electrics for main line use in 1951.

The 930s have become the mainstay of the SAR broadgauge fleet and can travel all mainlines although the lighter branchlines cannot support their axleload of nearly eighteen ton. The original tender called for a locomotive of 1600HP available for traction so the 930 class received a derated version of the motor that was later fitted to the 44 class which have 1800HP. Even so the 930 is set a load limit of 570 ton on the 1 in 40 grades of the climb to Mount Lofty.

The 930 can work its load limit at about 10mph whereas the higher geared 1588HP 900 class travels at about 15mph and the 900HP 830 class is down near 6mph. When it came to slogging loads through the Lofties the 930 was best suited to the task and they displaced the 900 class from the Overland passenger train. Just for comparison a 930 could haul 570 ton to Mount Lofty in 68 minutes, a 900 hauled 410 ton in 55 minutes and the 830 could handle 340 ton in 104 minutes. The 830 must have knocked other schedules way out of shape at that pace because their load limit was reduced to 250 ton in 1971 to speed them up a bit. Although it is a slogger the 930 can show a fair turn of speed as it is geared for around 80mph even though most of the SAR mainlines have a speed limit of 60mph. The comparison with King steam is inevitable. Back in the good old days a 500 class 4-8-4 could work about 500 ton to Mount Lofty however its speed was restricted to 50mph. This meant that a faster engine was required for the easy graded sections beyond Tailem Bend and this was the domain of the 600 class 4-6-2s. Nowadays the same diesel slogs over the Lofties and speeds its train through to Serviceton which is just another advantage of the diesel design.

The single enders are restricted to working to destinations which have a turntable or triangle unless they are paired with another diesel. The 930,830 and 700 class Alcos can multiple unit with each other however the English Electrics have different control voltages and will not multiple with Alcos. I understand that the present NSWPTC policy is that when a single ended diesel (42 and 43 classes) runs as the second unit it must have its cab leading so that if the leading unit fails the crew can still clear the section by driving from the single ender. The SAR does not have any policy such as this but prefers the aesthetic appearance of diesels running back to back.



Builders plate of 966



On March 31, 1956, 930 stands beside the Tailem Bend platform with no. 802 South East passenger. Note the paint scheme, the connecting chain across the nose door and the full length of louvers along the side. Photo by Brian Castle.



The Royal Standard as attached to 963 when it headed the Royal Train. Photo by Phil Butler (4/3/74) and is printed with courtesy of Telecom.

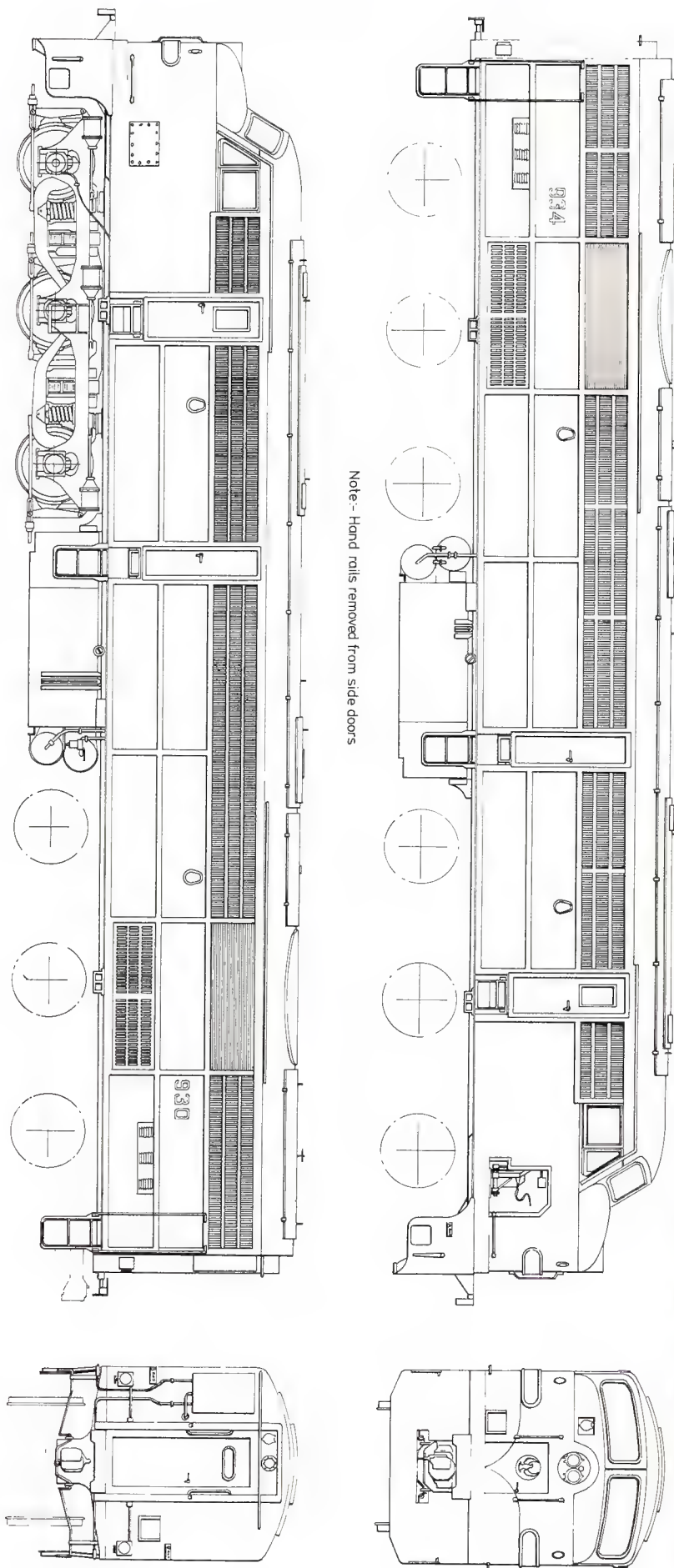
For many years back to back was compulsory for cab units but in recent years the emphasis has been changed to being preferable. Due to the design of the line to Tailem Bend there is more wear on the wheels on one side of the bogie. The diesels are turned regularly to even out the wear and extend the period between bogie overhauls.

For some time the double ended 930s were assigned to the peak hour service to Hallett Cove with a train of eight end loader light weight suburban coaches. Passengers complained of the jerky ride when the engines were 'notched up' hastily. This train then became the regular haunt of the 750HP 800 class English Electrics until sufficient Red Hen railcars were built to replace the locomotive

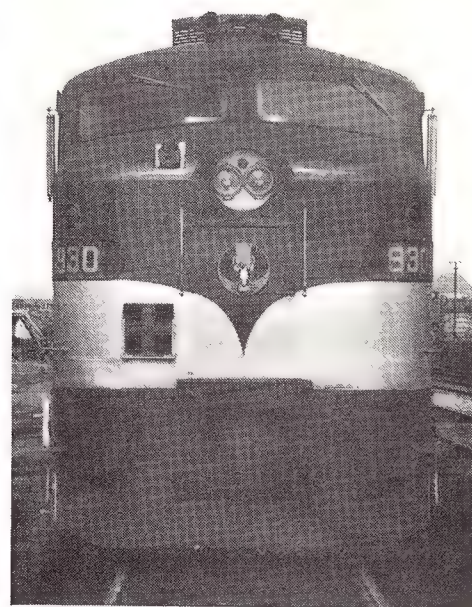
Hauled train.

The last four in the class, 963 to 966, were issued in 1967 in preparation for the Chowilla Dam project. Rock for the dam wall was to be hauled from Kinchina near Murray Bridge to the construction site near Renmark. Two double headed trains would have been used in a merry-go-round operation hauling skips loaded three to a flat waggon. Controversy raged over the choice of a dam site at either Chowilla or at Dartmouth in Victoria which was above the saline water producing area of the River Murray irrigation district. When the situation was resolved in favour of Dartmouth the SAR had four extra locos to absorb into the fleet. Within a few years it had begun to experience occasional

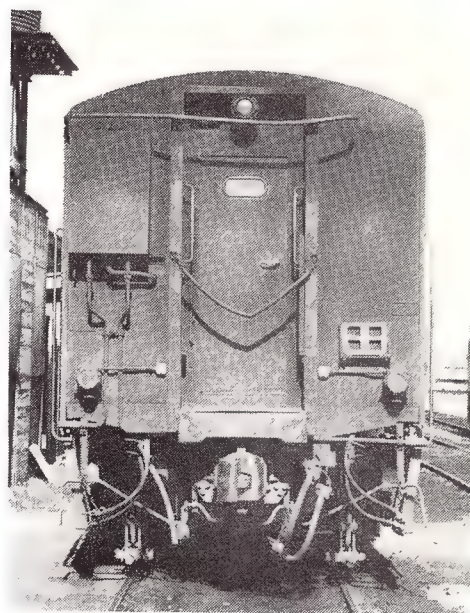
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feet
0 1 2 3
metres



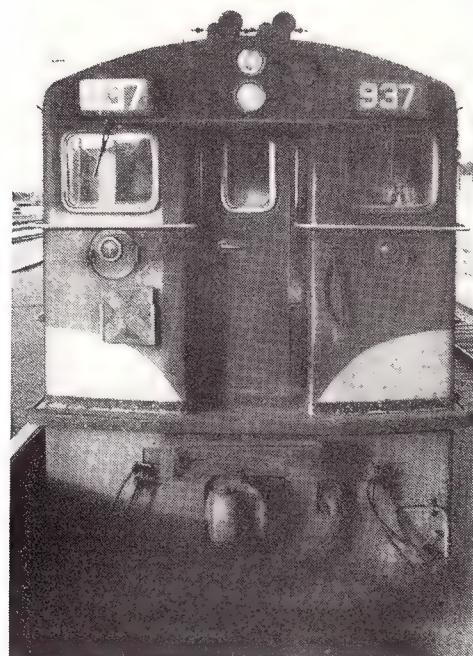
S.A.R. — 930 Class
Co-Co Diesel Electric.
Class units 930 and 935.
DRAWN: Roger Johnson



Front and rear views of 930 taken by Roger Billett in 1976.



No 2 end of 932. Roger Billett photo.





A crossing at Long Gully, with preserved 520 class and 935. Note the mesh (on 935) which replaces part of the louvres. The knife type aerial and other roof detail is also visible in this photo by Murray Billett.

power shortages. Three more 930s were ordered in 1971 but this was altered to the more powerful 700 class which was being developed as the 442 class on the NSW. The Chowilla skips were eventually scrapped, the FCD class flatwaggon were converted into open waggon as intended after the completion of the project and the branchlines from Kinchina and Chowilla were torn up.

The 930 class have had their times of notoriety probably the best known being 948 which

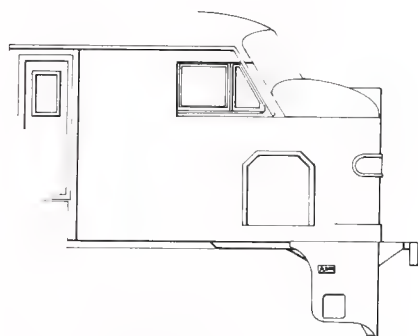
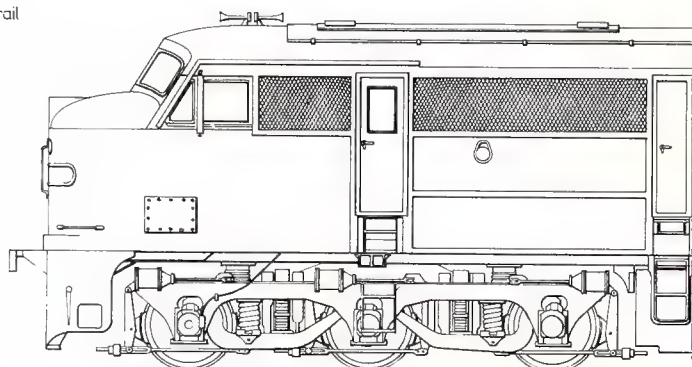
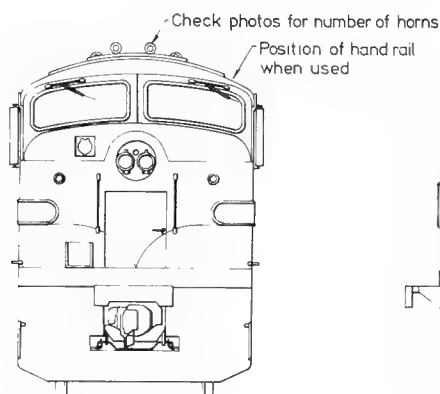
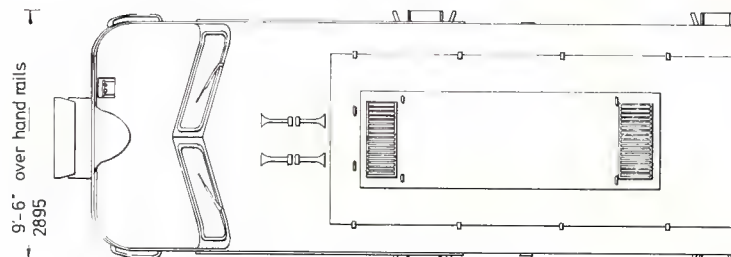
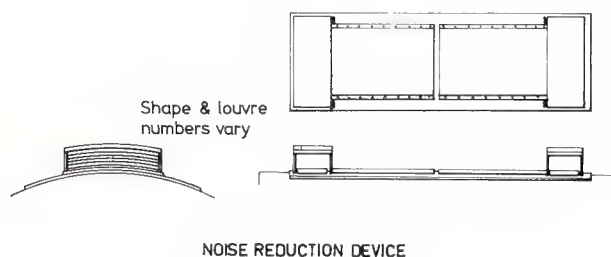
left the track near Petwood in August 1963 and plunged down a steep slope into a creek-bed. Two fuel tankers and 948 were gutted in the resulting fire but the diesel was rebuilt and returned to service. In 1967 953 ran out of control approaching Balhannah and passed a stop signal. Realising this the local signalman tried to divert the unexpected train onto a passing siding as a Blue Bird railcar was approaching the passenger platform. The diesel was already on the electrically operated point

when the mechanism began to move and it tried to bisect the angle between the tracks and nearly buried its coupler beneath the ballast in the process. The engine stayed upright however the newspaper reports said the total cost of repairs to track, engine and rollingstock was \$30,000.

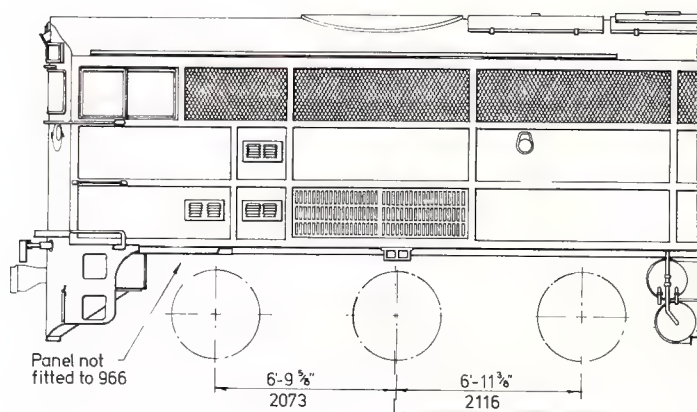
965 was not so lucky when it trailed 938 through a track buckle near Callington in December 1972 because it derailed and fell off of the low embankment and landed on its

The two rear ends are compared as 934 and 954 haul a ballast train in April 1974. Note that both diesels have the disc type aerial and that 954 has a Flettner vent on the roof.





Partial A End View
Typical 963-966



965 works the up Tailern Bend passenger though Yantaringa in July 1973. Note that the piping shrike emblem is lower than that fitted to 930 and that the marker lamps have been moved closer together. The plain panel just behind the cab window can also be seen.

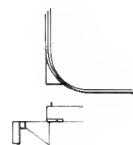
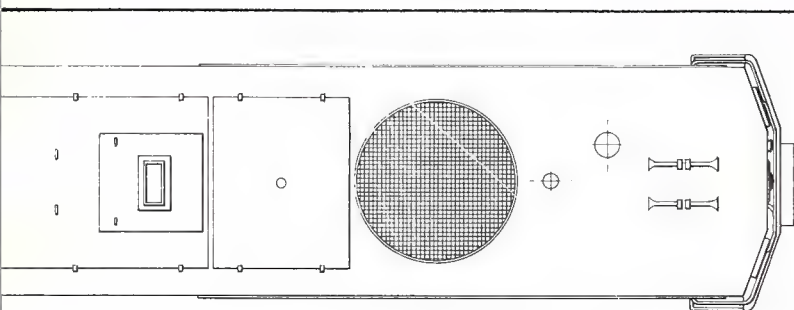
side. This was great for detail fanatics and photographers as rerailing attempts entertained railfans for several weekends in January 1973. When delivered in 1965 engine 962 was the one hundredth diesel acquired by the SAR for its broad and narrow gauge lines. 963 and 966 worked the Royal Train carrying H.R.H. The Duke of Edinburgh to Murray Bridge in 1974.

External Detail Variations and a Comparison with the 44 class.

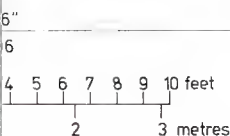
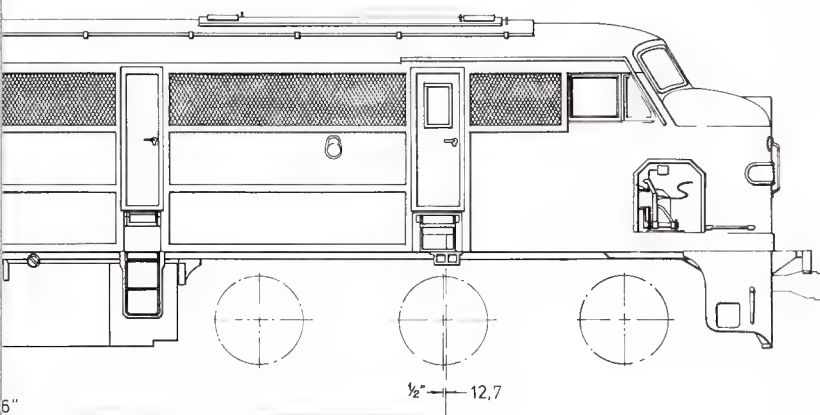
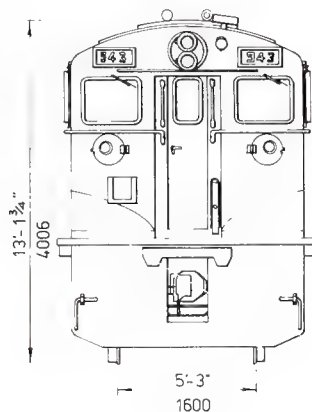
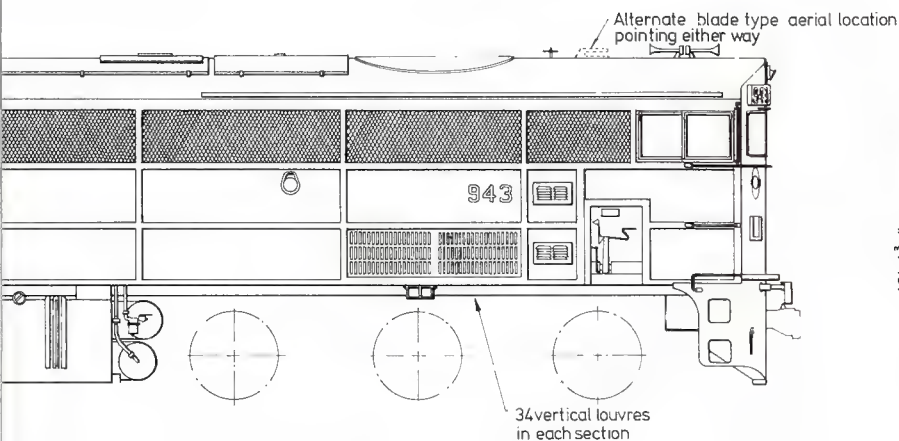
930 to 935 were single enders and were painted maroon over the nose, on the cow-catcher and in a broad band along each side below the large louvres. The B end was painted black although the door was maroon.

Stainless steel was applied from the rear of the cab door along each side to the B end. This band was continued toward the front in silver paint with the two bands curving downward and meeting in a vee shape above the coupler. The upper set of louvres, roof and bogies were also silver. A casting of the State emblem which is a bird known as a piping shrike was attached to the nose door. A padded chain was draped beneath the headlight and could be hooked onto coaches and other engines to form a gangway. The last of this group was 935 which was issued on 18/4/57.

On 4/7/1957 the first of a new batch, number 936 was issued and this was equipped with a second cab. A few days later on 8/7/



A End Step
Typical 950-957



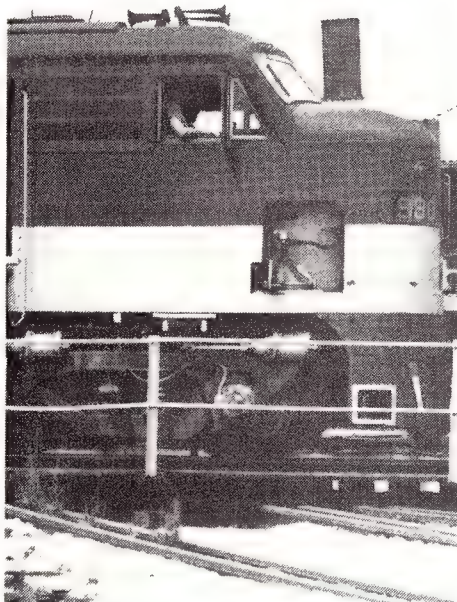
S.A.R. — 930 Class
Co-Co Diesel Electric.
Class units 936 to 966
DRAWN: Roger Johnson

1957 a similar unit number 4401 was issued by the NSWGR and became the leader of a class which eventually grew to a total of 100 locomotives. There were detail differences between the first and second batch of 930s. Whereas 930 had pressed metal louvres along the full length of the body 936 had a section of wire mesh across the air intake above the rear bogie. This was later applied to 930 to 935 also as can be seen from the photos. 4401 had wire mesh along the full length between the cab side windows and this was not applied until 940 was delivered nearly eight months after 4401. 4401 also had wire mesh in the smaller opening above the rear bogie however all of the 930 class have retained louvres in this area. The most obvious difference between the 930 and 44 classes apart from colour is that the SAR staff exchangers are on the right hand side whereas they are on the left side of the 44s.

The position of illuminated number panels also varied between the two classes. At the front of all of the 930 class the number panels are just below the level of the top of the nose door which allows room for the marker lights to be placed above them in either of two locations. The 44 class front number panels are centred on the top of the nose door with the marker lamps placed below them. At the rear end 930 to 935 do not have number panels while 936 to 966 all have illuminated

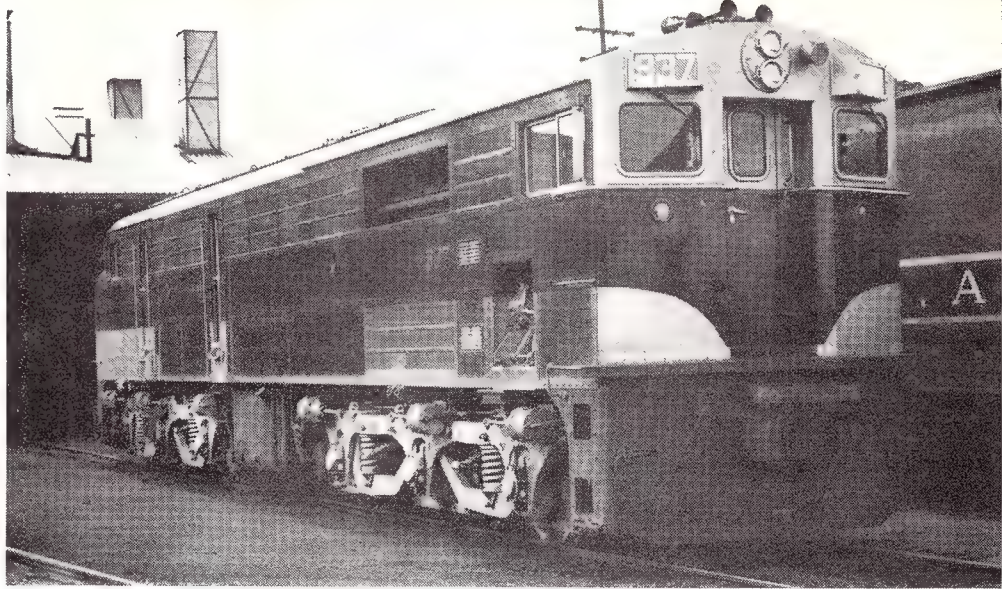


The short lived economy colour scheme applied to 956. Photo taken April 1976. Author's collection



Note the shape of the staff exchanger opening on 930 as it stands on Peterborough turntable in 1971. Roger Billett photo.

number panels alongside the headlights. The first batch of 44 class did not have illuminated numbers at the rear end but the numbers were painted just above the floor line on either side of the door. Later 44 class deliveries (4461 onward) had illuminated panels at each end. The original style of rear number panels on the



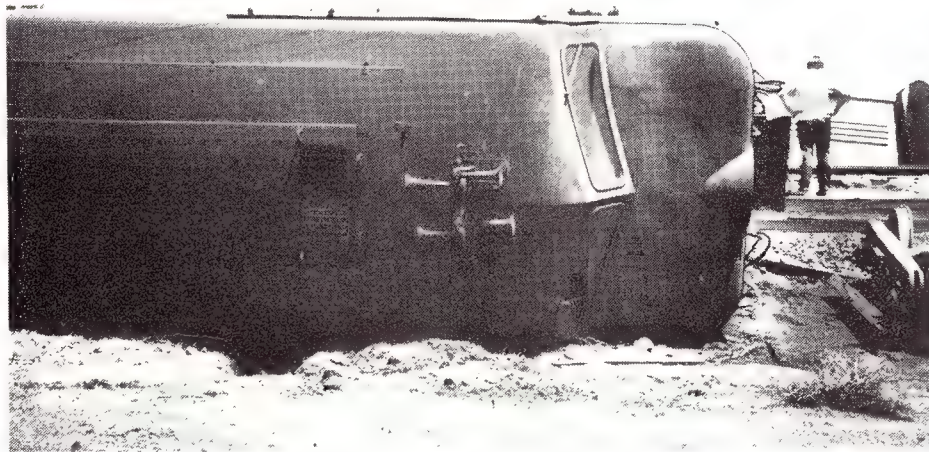
This photo of 937 was taken by Doug Colquhoun in October 1957 just one month after delivery. Note that the full length louvres have one panel of mesh and are painted maroon.

930s were held together with singnuts however these are now being replaced with a new style housing which has larger numbers and a hinge and clip instead of the nuts.

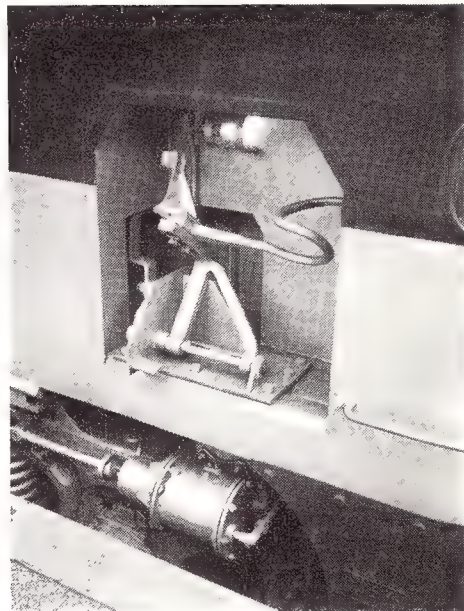
The multiple unit cable socket position was also different as the SAR had one alongside both front and rear headlights of 930 to 966. The 44s have two at each end situated within the horizontal yellow lining. The SAR rid itself of buffer equipped rolling stock in the 1940s so the large buffing plate as fitted to the 44s was not required. Instead a small platform

is situated above the coupler and forms the gangway between the engine and coaches. Two steps were cut into each side of the cowcatcher on the early 44 class however all of the 930s had only the lower step. The single ended 930 weighed 101 ton 12cwt, the double ended weighed 104 ton 5cwt, and 4401 weighed 112 ton 1cwt although this varied with later deliv-

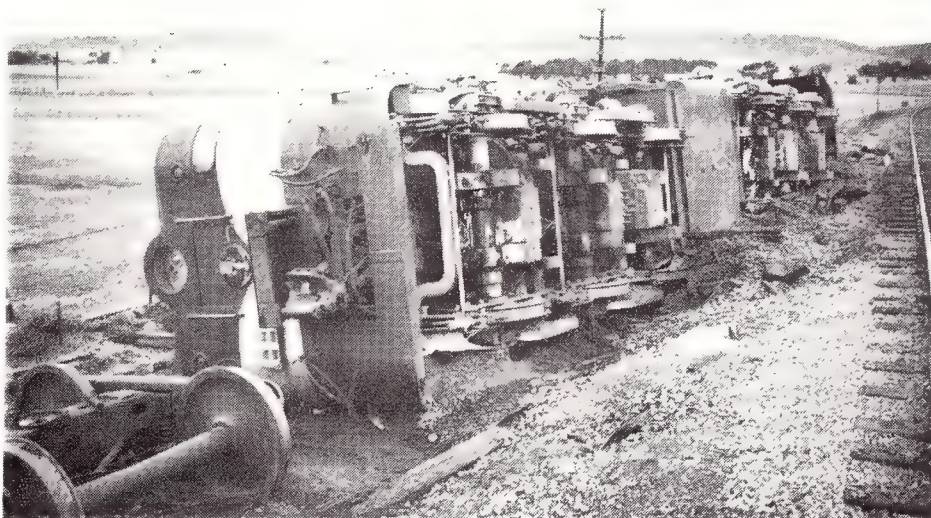
Overhead or side on view of cab window profile on 965, at rest at Callington 1973.



For those steam fans who feel this is the way to treat a diesel on their layout we present this photo of 965. Please ensure that your derailed diesel is fully detailed. Photographed in 1972.



The small triangular step above the front cowcatcher and the staff exchanger of 952.



eries. With all of these variations between the two types of locomotive which were being produced at the same time it is perhaps remarkable that the minor features were not accidentally mixed.

Other minor variations are perhaps worth mentioning. 950 to 956 were fitted with a small triangular shaped step just above the cowcatcher on the A end. Many of the double enders have a rotating Flettner style air vent on the roof above the B end being on the opposite side to that which has the staff exchanger. All of the class have been fitted with radio and the aerial is either a flat disc mounted just above the roof or the knife edge type. Since late 1974 the 930s have been progressively fitted with a louvred box contraption over the exhaust for the dynamic brake fans. This follows complaints from residents particularly in the Heathfield area who were disturbed by the piercing whine caused when the engines travel downhill with the dynamic brakes in operation.

Over the years since 930 was introduced the paint scheme has undergone gradual changes. Originally they were painted a reddish maroon colour but this has slowly changed to a brownish ferric red which quickly weathers to a variety of red-brown colours which are difficult to pin a name to. The colour scheme of 930 when it was issued has already been described. 936 onward had the maroon replace silver on the long louvre section although as can be seen in the photo silver was on the roof and down to below the rear cab windows. The silver roof was quickly lost in the exhaust soot and grime but was valiantly repainted from time to time. In the 1960s maroon replaced the silver on the roof and rear window surrounds when the engines required repainting although they were usually delivered with silver roof. Surprisingly engine 700 has recently been repainted and retained its silver roof although the standard gauge 703-705 have been repainted in the orange and brown colour scheme. Many of the 900s and 930s had black painted around the A end cab windows to reduce glare. In early 1976 the SAR commenced a program to simplify the diesel colourschemes and 956

lost the silver vee at front and rear. The Unions complained about the all red nose because of decreased visibility especially at night and the vee was repainted onto 956 and 901. In 1977 the economy drive has been extended to the steel coaches which are now losing their silver waistband. The cab interiors are painted an apple green colour similar to Humbrol No. 1 Eau de Nil. Control stands are painted grey.

In ten years the SAR built its fleet of 930 class to a total of thirty seven with the last being 966 which was delivered 27/6/1967. In about the same period the NSW acquired one hundred of the 44 class with the last being 44100 on 22/1/1968. From photographs I have prepared a listing of the variations in the 930s but I'll leave the 44s for someone who knows them better.

930 to 935 delivered from 12/1955 to 4/57. Single ended with louvres full length of body side. One section of louvres later changed to mesh. Piping shrike emblem in the high position above the door handle. Marker lights central over the three in the number panels. The opening for the exchanger apparatus has three squared corners and a cut out on the left hand edge.

936 to 939 delivered 7/57 to 1/58 with louvres but one panel of mesh, no shrike and had central markers. Double ended. Exchanger opening enlarged. 936 only has B end marker lights mounted on square panels. Others are circular.

940 delivered 3/58. First with full length mesh, double ended but no shrike, had central markers.

941 to 949 delivered 4/58 to 7/59. Double ended with full length mesh, from 945 onward marker lights were moved to be over the inside edge of the front number panels, shrikes varied — 941, 942, 944 and 948 had the shrike low into the vee; 946 had the shrike above the door handle while 943, 945, 947 and 949 did not have a shrike.

950 to 957 delivered 4/61 to 3/62. Double ended with mesh full length, inside markers,



966 looked particularly clean at Angaston in March 1974 as it waited for the return trip of the Islington Workers picnic train. The cab window surrounds are painted black.

triangular steps above cowcatcher at the A end, 950 had a high shrike while the rest were low.

958 to 962 delivered 5/65 to 10/65. Double ended with full length mesh and inside markers, 958, 960 and 963 had a low shrike while 959, 961 and 962 have high shrikes.

963 to 966 delivered 2/67 to 6/67. Double ended with inside markers, solid metal panels between A cab side window and nearest door, remainder is mesh, all have low shrikes.

"Who said the 930s all look the same."

BOOKS

by John Bevan

This issue there are two books I will bring to your notice. The books have two major common features — both have the same author, Paul Mallery, and both are not available in Australia.

The books are 'Trackwork Handbook' and 'Bridge and Trestle Handbook'. Both are published by Boynton and Associates of Clifton, Virginia U.S.A. These books were imported by a member of the A.M.R.M. staff who passed them on to me for review.

It is almost pointless to describe the contents of both these books as each contains a comprehensive treatment of its subject. A list of the chapter titles will show you the scope:

Trackwork Handbook:

1. Excellent Trackwork is a must (Benchmark, Layout Design)
 2. Trackwork Design (Curves, Superelevation, Easements, Vertical Curves, Track Centres, Laying out the track, Templates)
 3. Sub-roadbed (Risers, Flat and Laminated Sub-roadbed, provision for bridges, materials)
 4. Roadbed (Materials, Installation, Ballast)
 5. Track (Rail, Spikes, Ties etc)
 6. Turnouts and Wyes (Types and construction)
 7. Special Switches (Triple, lap, slip)
 8. Crossing
 9. Switch Stands and Switch Machines
 10. Electrical
 11. Trackwork Scenery (Minor details)
 13. Wheels and Couplers
- The appendix includes the N.R.M.A. standards for track work and wheels.

Bridge and Trestle Handbook:

1. Purpose of Bridges and Trestles
2. Elementary Bridge Engineering
3. Types of Bridges
4. Selection of Bridge Type

5. Culverts
6. Abutments, Piers, and Pedestals
7. Bridge Floors
8. Beam Bridges
9. Plate-girder Bridges
10. Steel Truss Bridges
11. Timber Bridges
12. Arch Bridges
13. Movable Bridges
14. Long-span Bridges
15. Trestles
16. Bridge Miscellany

Both books are the same size 220mm by 280mm, the Trackwork Handbook contains 90 pages and the Bridge Handbook 136. It would be unwise of me to comment on any aspects of the contents other than to say that when dealing with prototype practice the reader, and I hope user, must remember that the prototype in U.S. and that Australian practices are often different. However the Australian modeller by combining observation of the local scene with the information in these books should become a better modeller.

Both these books are lavishly illustrated with drawings but have only three photos, all in the Bridge Handbook. One of these photos is of the author! This is not a shortcoming as the drawings by eliminating distractions draw attention to the essential detail.

These books are available from the publisher, Boynton & Associates, Clifton House, Clifton, VA 22024 U.S.A. Their retail prices is \$U.S. 5.95 each plus postage and packing. It would be reasonable to add about 25% for postage to Australia making the total cost at present about \$A6.75 which is a reasonable price. It would be nice for some local hobbyshop to import them and save us all the trouble.

Trackwork Handbook by Paul Mallery Pub. Boynton & Associates Clifton Virginia U.S.A. Bridge and Trestle Handbook by Paul Mallery. Pub. Boynton & Associates Clifton Virginia U.S.A.

A 930 CLASS CONVERSION

Continued from page 24

The existing multiple unit socket covers were carefully removed with a narrow blade, put aside and the holes then filled with Plastibond. At the right hand side of the front headlamp a new recess was cut with a drill and a knife with a dab of Plastibond used to fill the hole which appeared at the back. When almost hard the back of the recess was trued with a knife. Then one of the saved socket covers was glued in this recess and another between the rear headlight and the right hand numberboard.

The buffing plates were pulled off and the cast bases were filed off of the aprons on both front and rear. The large open areas were filled in with styrene and Plastibond. Kadee couplers were fitted to the body and sufficient clearance was obtained by cutting the front of the chassis to allow the coupler pocket to slip through.

The first completed loco was superdetailed further by replacing the handrails with .015" wire and the windscreens were made from clear styrene sheet cut to fit. The body was then painted with Floquil Barrier and then Boxcar Red. After this had dried fully the silver areas were painted, while the stainless steel area along the sides was painted with a mixture of 50-50 white and silver. Around each step a narrow band of silver was applied. A 'piping shrike' emblem adorns the door on the front of this engine. The second loco was painted with Floquil Poly-S and Barrier is not required with this paint.

NSW fans may be pleased to know that I will retain a third model in NSW livery for interchange purposes. Apart from extending the skirting at the front (this is one of the second run of models and has the ultra short aprons) the only changes intended are the addition of Kadee couplers and extensive weathering as I can't stand to look at that yuckie yellow and brown paint.

MORE MUSCLE

If your Lima 44 won't pull the load you want it to, why not do what Hugh Williams did . . . double power it!

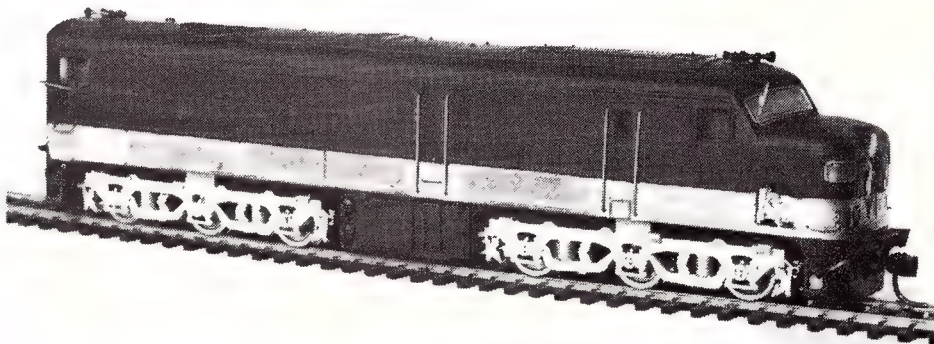
When you have successfully converted your 'horrible looking brown thing' into a respectable looking maroon and silver 930 (we're not at all biased) there is still one problem to overcome. The model is a bit gutless and to quote my good friend John Gordon, "It wouldn't pull a slippery sausage off a greasy plate". This matter can be quite easily rectified with the addition of an extra motor bogie in the diesel. (Another method was described in the Nov/Dec 1976 AMRM).

First we need another motor bogie and I was lucky. Mine came from a diesel that ended up looking like chewing gum after an avid SAR modeller (who shall remain nameless) tried to get the NSW brown off the body with turps. Lesson . . . Don't soak your plastic bodies in turps unless you are modelling chewing gum. Anyway, Bridglards was able to get a few similar bogies in for us at a reasonable price although they did not have the side frames on them. Cut the frame off of the non-powered bogie and glue it to the new motor bogie. Rather than draw a series of plans it is far simpler for me and for you if you copy the power bogie that came with the locomotive. Materials used on the bogie I converted was .030" styrene and MEK as a solvent. The pickup spring on the non-powered bogie will also have to be transferred to the new motorised bogie and, on the models we did, a small extra piece of shim brass was added to the pickups by soldering them to the pickup, then drilling a hole in each end so that the frames could be screwed to the motor unit through the holes in the brass shim. As I said, rather than try and follow a long description, just copy the existing setup on the powered bogie. Solder a piece of wire between the pickup and the one of the two pieces of metal holding the brushes onto the armature.

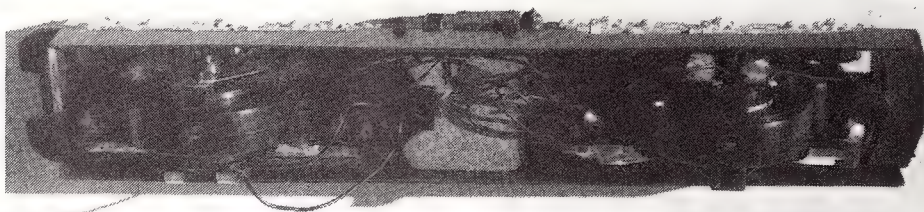
For anyone who has more money than time there is a third suggestion of how to get another powered bogie and this is to buy a second loco, put both of the powered bogies into one body and run the other as a dummy using the two non-powered bogies. If you think this suggestion is stupid then it is time to convince you otherwise by quoting the results of tests carried out on John Gordon's layout using an unaltered model, two that have additional weights added and one that has two motors. The diesels climbed a grade that was about 1 in 50 and the weight of the load was calculated by putting the various freight wagons into a set of kitchen scales.

Since this test has only been carried out with the one twin motor diesel the tests may not be typical, but even allowing for a large percentage of error the tests are quite conclusive as to which will pull more. I have since been shown mathematically why this power improvement occurs.

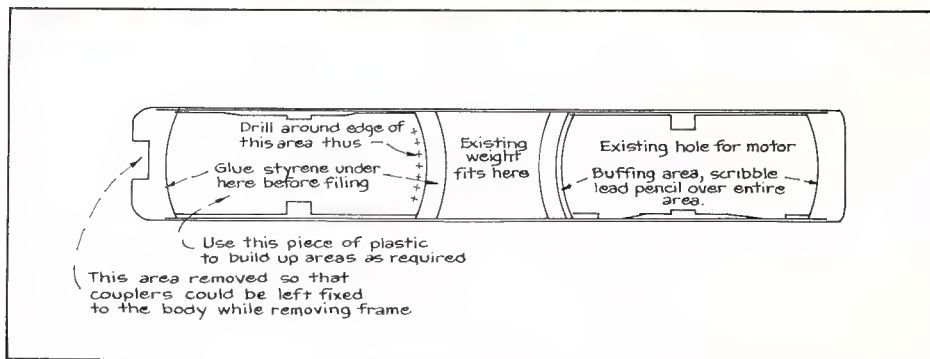
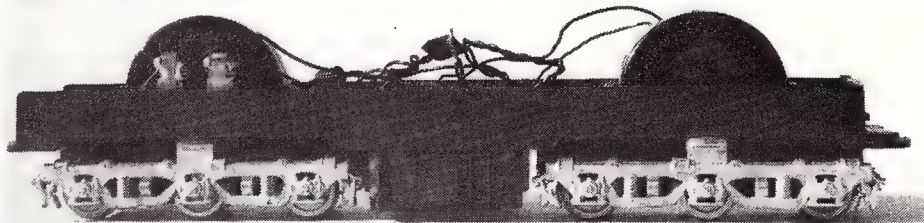
So far we have ourselves a second power unit. Now we can attack the frame. Strip all of the components out so that all that is left is just the frame. Cut a hole in the floor at the cab end to the same size and shape as



Remotored 930 class.



Above and below are two views of the two mechs in place.



the hole that already exists for the powered bogie. I did this by marking out the size of the hole onto a piece of card, cutting out the card

and then using this as a template to draw the details onto the floor using a pinvice. Drill holes through the frame so that the plastic not required can be pressed out of the frame. Using this piece of plastic just removed I glued pieces of it to each end of the hole just formed in the frame. When the glue had dried the ends were filed smooth to the same shape as the hole in the other end of the frame. It is important that this area is made smooth as it acts as a buffing place for the motor bogie, and failure to have it working properly will result in endless derailments. You may find that even the existing motor bogie will not swivel properly over the buffing areas of the frame, causing derailments. This can be overcome by scribbling over the buffing areas of the frame with a soft lead pencil or with Kadee Grease-em.

One important thing to remember is that the second motor must operate in the reverse

Continued on page 39

TABLE

POWER	Loco weight	Train weight without slip	Train weight just moving
Lima diesel (standard)	8oz.	5 wagons=13oz.	6 wagons=16oz.
weighted model	9oz.	5 wagons=13oz.	6 wagons=16oz. slips less.
two with weights	19oz.	9 wagons=24oz.	11 wagons=31oz. 35oz. stops it
twin motors	9oz.	22 wagons=63oz.	24 wagons=69oz.

The 'R' Class Cars of the N.S.W.R.

Compiled by Tim Arnot.

In the early 1930's, the then N.S.W.G.R. embarked on a program to rebuild some of the ubiquitous "box" cars to light corridor types for use on day passenger trains and other duties requiring better stock than their predecessors of the LFX, BX, and CX types, perhaps a task which may not have proved too onerous.

This program resulted in the "L" and "R" series cars, centre aisle tourist and side corridor compartment vehicles respectively, of which the close coupled "R" car sets will be dealt with in this article. Brief details of the cars involved in set workings are given below, whilst full descriptions will be given in a later article.

First Class Cars:

BR — each seats 36 passengers in 6 compartments, 3 each side of a centre vestibule, except No. 1395 which seats 34 with slightly different interior layout. Car 1719 has a semi-elliptic roof in lieu of the standard mansard roof. **SBR** — literally a short BR, seating 30 in 5 compartments, with a slightly off centre vestibule dividing the car into 3 and 2 compartment "blocks".

RBR — this is the buffet version of the BR car, seating 30 in 5 compartments, with the other compartment providing the somewhat limited food preparation area.

HBR — this code appeared in 1969 as a rebuilt SBR seating 18 passengers, with two compartments taken over for the guard and luggage. Another car, ex BR.1369, was converted in 1972, seating 18 passengers with a larger luggage area.

Second Class Cars:

FR — each seats 48 in 6 compartments, separated by a centre vestibule, except No. 726 which seats 44. FR.1643 has a semi-elliptical roof, whereas all the others have mansard roofs.

HR — basically economy class with guards compartment, with four different types.
a) Cars 344, 378, 381, 406, and 410 seat 32, being rebuilt from 46' box cars.

b) Car 322 was also rebuilt from a 46' box car, but seats 30.

c) Cars 995 and 1235 seat 32 and were rebuilt from 49'3" LFX cars.

d) Cars 1354 and 1400 seat 40, also being rebuilt from LFX box cars, with a smaller luggage section than 995 and 1235.

RFR — the buffet version of the FR, they originally seated 24 in 3 compartments on one side of the centre vestibule, with the other half of the car as a buffet section. Subsequently, the whole car was taken over as a buffet, hostess, and staff section, with no public seats provided.

Composite Cars:

CR — seats 12 first class passengers in two compartments on one side of a very much off centre vestibule, with four compartments seating 8 second class passengers each for the balance of the vehicle.

HCR — these two cars were converted in 1973 from CR cars, by the replacement of the end second class compartment with a small guards section, thus reducing seating to 12 first and 24 second.

General Details:

A general description of these cars is complex as the 109 cars come in 29 varieties, if distinction is made between close-coupled and independent cars.

One thing that can be said is that all cars were originally rebuilt with matchboard sides and small windows, known as 'crownlights', immediately above the main side windows. The matchboarding has long since disappeared, while the crown lights remain in some cars, others having been replaced by either a substitute board or by rebuilding above the window line (see illustrations).



BR 1362 (Set 108) at Scarborough in April 1977. The matchboard siding has been covered with masonite. H. Armstrong photo.

All cars are side corridor compartment stock, except the three prototype cars, FR.726, BR.1395, and HR.322, which have small open sections as well as compartments. All have mansard roofs except FR.1643 and BR.1719 as previously mentioned. The sets were originally outshopped in varnished woodwork exterior, except 108 set which was blue and gold (or cream) for the "Caves Express" and 109 set which was green and cream for the "South Coast Daylight". By the mid 1950's, all sets had been repainted to standard colours.

The original cars in sets 100, 101 and 102 had larger toilet windows than later cars in the series. FR.1106 which was added to 102 set in 1938 had the smaller windows. The HR cars 995 and 1245 in 109 set were the only HR's with full vestibule connections on the outer end, the other cars having no outer access, except Car 322 which had only a door in the outer end.

The set details and workings which follow are pre 1973 only, with the post 1973 workings grouped together as a separate section.

Car Set Details:

SEB.100

— This set was used on the Goulburn service which later became the "Southern Highlands Express". On 7th July, 1948 the set re-entered service equipped with steam heating apparatus; the first use of this apparatus in the state. The set remained steam heated until the demise of steam in 1969.

In about 1960, the set was relegated to the evening Moss Vale commuter service, the well known Nos. 49/50 south, being replaced on the Goulburn "Highlands" run by electrically heated SOB.102, ex "The Fish". In May 1970, the set was again displaced by SOB.102, and then found employment on the South Coast line, running as far as Bomaderry (Nowra).

The original composition was:-
HR.378, FR.602, BR.1149, RBR.1226, FR.1057, HR.406

SEB.101

— This set was placed in service in December 1931, and contains the three prototype cars

— BR.1395, FR.726, HR.322. This set was regarded as spare for most of its life, although it was rostered on the evening Picton passenger and morning return from 1950 to about 1962, other workings would have involved deputising for other sets unavailable due to overhauls,

repairs etc. The original composition was:-
HR.410, FR.1107, RBR.1047, BR.1395, FR.726, HR.322.

This set is currently employed on Gosford commuter services, as a four car block, RBR.1047 and BR.1395 having been removed.

SOB.102

— Placed in service in March 1932, the six car set comprising cars HR.381, FR.719, RBR.1043, BR.1368, FR.1054 and HR.344 was rostered on "The Fish" Sydney — Mt. Victoria commuter service, where it remained until replaced by interurbans on 15th September 1958. About 1960, the set was rostered to replace SEB.100 on the "Southern Highlands Express" to Goulburn. In May 1970, the set was relegated to the Moss Vale commuter service, again replacing SEB.100, and is currently employed on this train.

In 1938, FR.1106 was added to the set, marshalled between HR.381 and FR.719. During the year ended 30.6.1940, the set was modified to provide electric heating using additional axle driven generators on each car, this equipment being operable at least until 1970. Further cars were added in 1947, being BR.1228, FR.1357 and FR.1350, although these three cars were removed about 1959. The ten car "Fish" is believed to have been marshalled HR.381, FR.1106, FR.719, RBR.1043, BR.1368, BR.1228, FR.1357, FR.1350, FR.1054, HR.344 — the only doubt being that the two FR's Nos. 1357 and 1350 may have been reversed in order, i.e. 1350, 1357, 1054.... These three extra cars, unlike FR.1106 mentioned earlier, had the standard long diaphragms and buffing plates, while cars 1368 and 1054 were fitted with these long diaphragms at the same time; still retaining this feature today.

SIB Sets Nos. 103, 104, 120, 121, 122

— These 5 sets can be regarded as interchangeable in duties, in that the sets had common seating capacity, although slightly different loaded weights. The sets were introduced to traffic as follows. 103 in 9.1934; 104 in 10.34; 120 in 12.41; 121 in 5.1942 and 122 in 4.1944.

Sets 103 and 104 were used on the Tamworth day trains from their introduction until October 1941, then being allocated to the "Northern Tablelands Express" to Armidale as from May 1942. In the interim, the buffet sections were added to existing FR's in the sets (see below).

Sets 120 and 121 were introduced to traffic on the Tamworth Day trains (now running tri-weekly) and the tri-weekly Kempsey day train, each roster requiring one set. In common with the SAB sets, much change in rostering occurred during the latter war years, and immediate post war coal shortages. 122 set was introduced in April 1944 as a spare set for 120 and 121 sets, and at various times between 1944 and 1947, SIB sets were rostered on the Cowra Mail, the Riverina Express, Northern Tablelands Express, Tamworth and Kempsey day trains. As at January 1948, two sets were in use on the Northern Tablelands Express, and a further two sets worked the Riverina Express. By 1952, the Tamworth train utilised 2 sets, both having lost their

N.S.W.R. 'R' Class Cars.

Although this article on the 'R' class cars of the N.S.W.R. is basically a historical article, it is included in the Australian MODEL RAILWAY Magazine to give all readers the opportunity of being fully aware of the 'R' car, the many variations and uses. Then readers will have no excuse if they fail to take advantage of the current run of N.S.W.R. 'R' class car kits by Workshop 5 Models, who is producing the H0 kits on a limited basis.

Editor.

RFR's, thus being three cars only, the sets involved being 120 and 121, while the Kempsey train consisted of 4 car sets, either 103, 104 or 122 being involved on this two set roster. In 1957, these trains were reduced to thrice weekly working, thus requiring only two sets, these being 120 and 121, with the other three sets being spare. These workings finally ceased in October 1963, replaced by two car diesels.

Two sets, being normally 120 and 121 were then used on a Sydney-Newcastle local passenger, 103 having been condemned in 1960 in toto, with 104 and 122 as spares, with 122 usually being used as a replacement when needed. Even this working was replaced by diesel trains in 1968, and the four remaining sets have been spare since then.

Respective composition details for SIB sets are:
103 — Originally FR.1061, FR.64, BR.1045 FR.1406. FR.64 was converted to RFR in 10.41, and further modified to full buffet in 8.50. The whole set was condemned in August 1960.

104 — Originally FR.137, FR.1137, BR.1146, FR.785. FR.1137 was converted to RFR in April 1942 and further modified to full buffet in August 1950. This car was condemned in August 1965.

120 — Originally FR.1243, RFR.1051, BR.1221, buffet in November 1946 and subsequently condemned in February 1956, although the car was probably out of traffic as early as 1951.

121 — Originally FR.1136, RFR.1342, BR.1364, FR.1405. RFR.1342 was modified to full buffet in November 1946, subsequently being condemned in February 1946, although the car was probably out of traffic as early as 1951.

122 — Originally FR.1352, RFR.781, BR.99, FR.1356. RFR.781 was modified to full buffet in August 1950, subsequently being converted to FR in July 1970, being replaced in this set. This car was noted stored at Newcastle in September 1975.

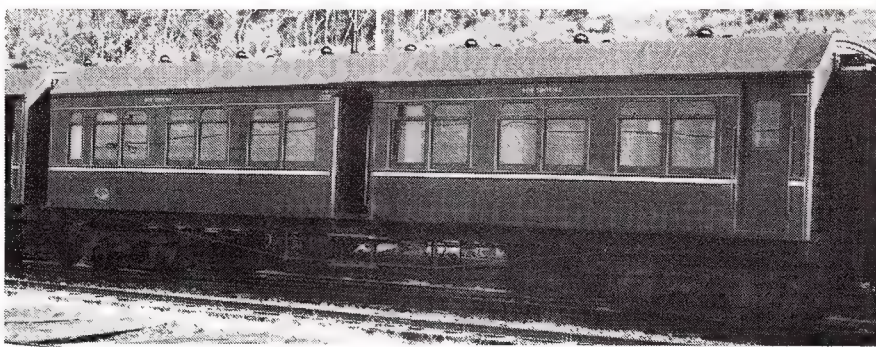
SAB Sets Nos. 105, 106, 107

— These three sets originally appeared in October 1934 (105); March 1935 (106) and April 1935 (107). The two former sets were used on the Dubbo day train, later known as the "Central West Express", while the latter was regarded as spare. Each set was built up in 1941 by the addition of an extra BR car. In October 1941, one FR in each set was converted to RFR, and it was at this time that the "Central West Express" name was first used, the daily roster requiring two sets. In 1944, the service was cut back to require one set only, running bi-weekly to Dubbo and once weekly to Forbes, while one set was rostered on a tri-weekly Riverina Express, to March 1946 when used on the daily "Federal City Express" until about 1948. In March 1946, the full "Central West Express" service was re-introduced requiring the two remaining sets. These two sets, being 105 and 106, were fitted for steam heating in June 1950 and were eventually replaced by HUB and RUB sets in October 1951. The RFR's were removed at this time from 105 and 106, which were then both used on the Orange day train. 107 has been spare since about 1948, but used as a relief set. The Orange day train was replaced by diesel trains in August 1960, and all three sets have been regarded as spare since.

Composition details for these sets are:

105 — Originally FR.1359, BR.1143, FR.932, FR.1398. In 1941, BR.1365 was added between BR.1143 and FR.932. In October 1941, FR.932 was replaced by RFR.1140 from 107 set. The RFR was modified to full buffet in November 1946, removed from the set in 1951 and condemned in February 1956.
106 — Originally FR.749, BR.1361, FR.1246, FR.1402. In 1941, BR.1369 was added between BR.1361 and FR.1246, while in October 1941, FR.1246 was converted to RFR. This car was further modified to full buffet in November 1946, removed from the set in 1951 and condemned in February 1956.

107 — Originally FR.1399, BR.1223, FR.1140, FR.1138. In 1941, BR.1044 was added between BR.1223 and FR.1399. In October



FR 1357 (Set 108) at Scarborough in April 1977. Howard Armstrong photo.

1941 RFR.932 replaced FR.1140, this latter car being converted to RFR and placed in 105 set. RFR.932 was modified to full buffet in November 1946, to be reconverted to FR in February 1970, being returned to this set.

SUB.108

— Was placed in service in December 1936 for the "Caves Express" and was designed to operate as a 5, 6 or 7 car set. The original composition was HR.1400, BR.1362, RBR.1049, BR.1042, FR.1238, FR.1345, HR.1354. Cars 1042 and 1238, having long diaphragms and couplers, are capable of independent use. The "Caves Express" name was dropped in October 1942 although the set continued on the morning Mt. Victoria run as a permanent seven car set, until displaced by interurbans in 1958/59. SUB.108 was then allocated to the Illawarra line. It is believed that FR.996 replaced BR.1042 in this set at this time.

SEB.109

— Was placed in service in April 1938 for the Sydney-Nowra "South Coast Daylight Express", replacing CUB.82 set. The original composition was HR.995, FR.772, BR.1148, RBR.1397, FR.1401, HR.1235. The set was replaced by a HUB air conditioned set in November 1949 and was then used on lesser south coast duties. In 1953, the set was allocated to the Moss Vale trains being replaced about 1960 by SEB.100. Since that time, the set has been officially spare.

New 103

— This set was made up in August 1969 from independent cars, being marshalled HBR.402, FR.1242, FR.997, FR.1037 and was used on the South Coast line. There were no close coupled cars in this "set", which was broken up by 1973.

Set 123

— This set was also made up in August 1969 from independent cars FR.1042 and HBR.415 — these cars being converted from BR and SBR respectively. It was used at Parkes for relief work, but was broken up by 1973. Again, both cars were not close coupled.

LATTER YEARS

In 1973, with the advent of the Public Transport Commission, the previous situation which saw many of these sets idle was changed dramatically when the old wooden end platform cars were withdrawn in total. The "R" cars were pulled out of their comfortable semi-retirement and pressed into traffic, not as prestige "name" trains, but commuter trains on the Illawarra, Gosford, and Richmond lines. Initially, this was not terribly successful, especially on the Richmond service, due to slow loading and unloading caused by the single door on each side of the cars involved. Subsequently, some cars in sets 107, 108 and 120 were provided with second side doors at the end of the car, generally opposite the lavatories. It must be noted here that the composition of sets has, from this period, tended to vary rather more than they did in the past, so much so that now, sets can alter week by week. Consequently, set details since this date must be in summary form, as follows:-

SEB.100 — has remained in use on the Illawarra, though RBR.1226 was renumbered 1788 in January 1975 and condemned in July of that year, while HR.406 was condemned in February 1977, the set thus currently running as four cars only.

SEB.101 is used on Gosford commuter trains, currently with 4 cars only as BR.1395 and RBR.1047 have been removed.

SOB.102 — is still used on the Moss Vale passenger, although for all intents and purposes, the set is a set in name only, due to constant changes. RBR.1043 was condemned in January 1975.

SIB.104 — was broken up in 1973, with FR.785 being converted to HC and the other cars being used to build up 107 set.

SAB.105 — is used on the Gosford line, currently with SEB.101 and other cars. When last seen, the "set" contained only its original terminal cars, FR.1359 and FR.1398 with BR.1395 marshalled between them.

SAB.106 — is used on the Goulburn day train, with BR.1369 converted to HBR in 1973. SAB.107 — was built up to ten cars for Richmond workings, by the addition of two cars ex SIB.104, an independent FR, and 2 HCR's; and remained in this service until May 1975, while the remnants of the set now work on the Illawarra.

SUB.108 — was also modified in 1973 to eight cars for Richmond line services, with two former independent cars, one of these replacing RBR.1049 which was condemned in July 1975. Since May 1975, when the Richmond line was electrified to Riverstone, the set has been used on the South Coast, currently running as five cars only.

SEB.109 — was utilized on Gosford services as a six car set with three heavy cars attached, but is currently on the Illawarra Line. RBR.1397 was condemned in July 1975.

SIB.120 — this set was built up to eight cars using independent cars, and was used on commuter workings. The set has ceased to exist as such, the cars being either in shops or in service as independents.

SIB.121 — is believed to be in use on local services in the Newcastle area.

SIB.122 — is in use on local services in the Newcastle and Gosford areas.

Conclusion — The future.

The delivery of a new series of double deck air-conditioned interurbans will probably cause the displacement of these cars to the Illawarra Line. It would be nice to see these cars, which have given many years of loyal service, retained for special working. However, the physical age of the cars could cause problems as the underframes can be up to 85 years old.

Acknowledgements:

This article could not have been compiled had it not been for the assistance rendered by Mr. John Forsyth of the N.S.W. P.T.C. Archives, Mr. Graham Ahern, Mr. John Beckhaus and Mr. Len Clark.

CAKE TIN TURNTABLE

Continued from page 22

which act as wipers for current pick-up. The brushes are located at each end of the wooden handle used to turn the turntable. Positive and negative terminals were then located below the track to supply the current for the turntable wiper brushes, and wired to the main control panel. Refer Figure 1.

The whole pit was greased with Vaseline and the disc mounted bed inserted. The turntable was now operational. Time taken to make the turntable was 6 hours at a cost of \$2.00. It may not be prototypical but at that cost/labour ratio it will do me.



Midplains — a foreshortened view of the yards and station (hidden behind the signal gantry) taken from the "up" end. Loco power in sight are a couple of 44's, a 45, 60 and a 50.

NSWR

Operation is the main requirement of long time modeller Frank Shennan. In this issue some more detail of organised operation.

CONTROLS — USE OF REMOTE CONTROL

As stated Midplains is the key station on the system so when planning the wiring, provision was made on the MAIN board for either MAIN or YARD boards controllers to work trains over the whole division or, conversely their individual sections, per a selection key on the MAIN board. Midplains MAIN can also remotely control Suburton, the intermediate station between Central-Midplains including all tracks and points except, of course, the one hand-throw point lever in the yards. Midplains MAIN board is also wired to control the entire Mountains division less a few minor siding points.

These remote control facilities are convenient for occasions when the boards in the centre aisle are unmanned, as it eliminates most of the need to leave the main boards at Central or Midplains to duck-under the tracks to reach the Suburton and or Lower Range-Summit boards located therein, which doesn't appeal much to fellows with back complaints such as slipped discs.

The keys that determine whether local or remote control has preference are mounted on the Suburton and on the Lower Range-Summit boards which are, respectively, located on the east and west faces of the centre aisle. This obviates interference from elsewhere when a local operator is in charge. The practice is to switch to remote when vacating these boards. This then allows most of the operation to be directed from the outside passages around three sides of the layout. Suburton may be remotely controlled from either Central or Midplains.

Working Mountain division on "remote"

As said, the remote circuitry at Midplains also enables that operator to work the entire Mountain division; he may drive a train to Lower Range for local shunting (as it is out of

view) or onwards to Summit and Quakers Quarries, which can be seen and worked from Midplains. He cannot control the Coast division beyond the Midplains — Coast connecting divisional milepost because the Coast remote operation is mounted on the terminal station board at Port. However, as the Midplains and Port boards are only a yard apart the procedure is to offer a train to Port and on acceptance (the accept key is within arm's reach) drive out of Midplains and then work off the Port board. The first station, Orchardville, on the far (east) side of the layout, and completely out of view, would have been switched over for Port Control, so the train is driven there (by ear) and stood on the loop for local shunting when convenient, or passed on to Harveston for similar attention, or again continued right on to Port. The operator at Port has to leave that board to work the other two stations on the Coast division is shunting is required.

The Midplains YARD board is responsible for 9 tracks and 11 points. The MAIN board has superiority over the "up" and "down" main lines to the end of the division where Central, Mountain and Coast divisions adjoin, and over the exchange parallel road feeding the yards; also to the roundhouse at the "up" end and the coach shed at the opposite end.

Full time marshalling at Midplains

It will be seen that the YARD board operator, under a full program, has no time to tell his life story. He is called on to break and make up, in a 2-3 hour session, five "up" and five "down" freights to and from each of the three divisions; sorting wagons on departing trains in the correct dropping order designated for each division. Additionally he has to spot or collect wagons on sidings at Midplains and marshal them into those trains according to

waybills. This means he handles no less than 15 arrivals and 15 departures. That indicates the necessity of the second man exclusively for yard working.

To expand, a freight for the Coast line has drops for Orchardville coupled next to the loco, then for Harveston and the rest for Port. Because Harveston has no loop and a blind trailing siding on the "down", cars for "up" destinations have to be collected on the "down" run and marshalled into "up" trains from Port. Time-consuming complications exist at Suburton, at Lower Range and Summit where the loco has to work from both ends of its train in order to spot or collect wagons in facing and trailing spurs.

When formations are marshalled indiscriminately at Midplains for such trains the crews have problems, especially clearing wagons from sidings before setting out arrivals for those sidings thus losing time trying to avoid a complete foul-up. Suffice to say it all adds to the fun provided operations elsewhere don't grind to a halt.

Lone operation has extra interest

One man sessions, free of group operation program limitations, allows for the bonus amusement of marshalling passenger trains based on presumed traffic demands established by the "pick any card" idea elaborated upon later. On such occasions, and operating firstly from the Central board, the procedure is to marshal up both a freight and a passenger string and successively drive them by remote to Suburton, placing the freight on the passing loop which connects with the yards, and the other at the platform on the main. Then with Central board closed down a move is made into the centre aisle to confront the Suburton board and yards etc. Of course, as explained earlier, one can work the total



Central Station looking south showing the main building and concourse with the platforms and coach shed.

Central division from the Central board which also means operating as many "Sparks" to and from Suburton as scheduled or fancied.

Central station requires 19 powered points which includes two crossovers plus two throwover lever type, also a 2-signal gantry and 9 mast and 2 ground signals.

At Suburton a switch over to local control is made and any necessary freight movements performed. Following that, the remote key is reset this time for control from Midplains, at which board is set up the route from main to yard on the Main board and then the two trains are successively driven from Suburton to the respective passenger/freight roads at Midplains.

The freight will firstly cross the yard to the "down" shunting neck after which the road engine will back it into a vacant reception road, uncouple, move forward and when the track is re-set, reverse to the roundhouse. Shortly after, working from the yard board, the yard engine will couple on to the rear end of that train and commence sorting it with other waiting rakes into whatever division each wagon is waybilled. Then a second sort is made of each set to place wagons in the right drop order. Similarly, with passenger trains, some rearrangement may be scheduled such as detaching or adding an extra car.

The foregoing action occupies a considerable part of the allotted time before the leave pass from household responsibilities expires. If no group operations are expected before the next lone day, the program is resumed another time when either the Coast or Mountain divisions, perhaps both, will be worked in both "down" and "up" directions from and to Midplains. If a group day intervenes, it becomes necessary to return locos and vehicles to programmed sites.

Working the intermediate stations

The following chapter will describe the circumstances coped with on a normal operating session but before getting on to "operations" some info. on control problems at the smaller intermediate stations is worth noting. For instance: LOWER RANGE. Located at the foot of Black Range it has all trackage on a rising grade in the "down" direction. The trailing crossover to the sidings shunting neck comes off the "down" (high) end of the passing loop. The shunt back into the two sidings serving the freight station, domestic coal stage and milk loading platform is accordingly up grade. This fact is mentioned to emphasise that proper working in this yard prohibits the "rip in, race out" operation common on some layouts under timetable observance. One has to reason out precise shunting moves to avoid

a lengthy tie up. There is the necessary water tower on the main to replenish locos faced with the arduous ascent to Summit. Lower Range station is worked inside the centre aisle, as mentioned, and is one complete circuit of 16 feet from Midplains, from which it is geographically separated by the mountain plateau where Summit and Quakers Quarries are situated.

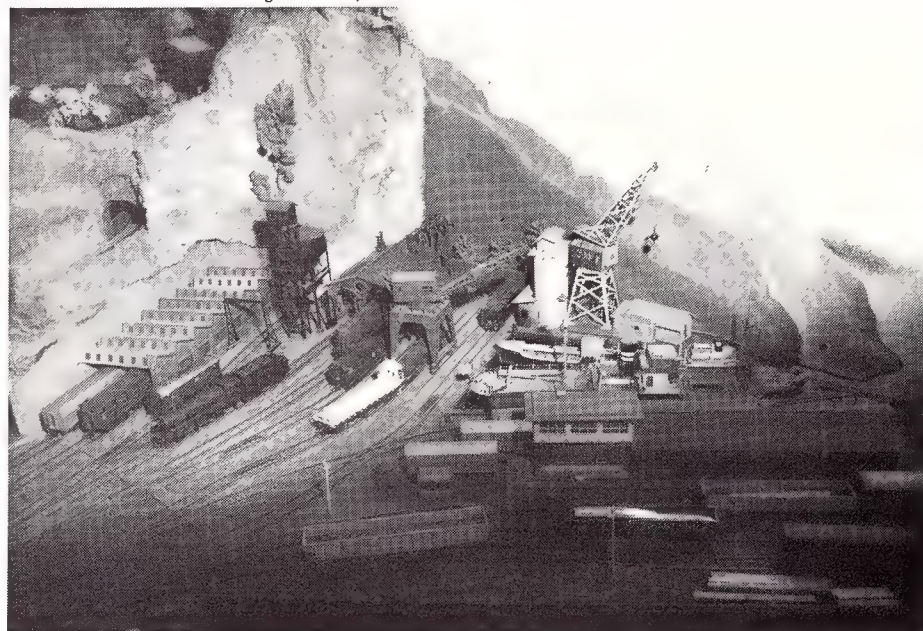
SUMMIT and QUAKERS QUARRIES. Working these connected yards is difficult because the layout here needs but has no space for an additional road for stowing or sorting. At Summit the single main opens to "up" and "down" tracks which continue on to become two dead-end sidings at Quakers Quarries. An intermediate double slip aids shunting but if vehicles are standing on the main tracks or over crowd the sidings there is no way to run-round for working the back platform, the freight shed siding or the coal mine. To obviate such situations what now happens is the dispatch of all on-moving wagons to Lower Range after shunting is complete at that site in order to free tracks at Summit etc. for acceptance and shunting off from a "down" arriving freight.

These complications emulate the real thing in a minor way and, as such, add to the entertainment ... and the flow of satirical remarks from the wayside critics.

ORCHARDVILLE. This first "down" stop on the Coast division has only one siding off the "down" end of the passing loop and presents no problems. "Up" freights with drops or pick-ups need either the main or loop to run round and if either is occupied the occupying train can be sent along the "up" or "down" main approach (if not accepted by the next station) beyond the loop points to free the area for shunting.

HARVESTON has a small half-carriage length platform and a single "down" dead end trailing siding serving a silo and for general purposes. The points are hand-thrown and shunting is performed per a cut-in cut-out key and a controller-reverser, superimposed on the overall Port control of the division. The latter operator has to vacate his seat at Port and move to the north side of the layout to do this. The section of main here switched in for local attention is short and judgment has to be exercised to avoid long shunts passing out of local control as this shunting occurs in a

A sweep over Port by helicopter provides a partial picture of this important shipping centre. Above the car shed is the Midplains end of the Central "short" line and topping that can be seen the western side of Black Range colliery.





Looking across the up end of Midplains yard. Road traffic awaits the opening of the rail gates after yard shunter 5063 moves on. The uncoupling ramps for the Mantua type couplings are seen in the closest tracks and are denoted in every case by a lamp post which assists yard operators spot cars from a distance. At this site the yard carries 11 tracks.

tunnel. As mentioned, "up" wagons are collected by the "down" trains, otherwise such wagons would have to be pushed ahead of the loco to Orchardville for inclusion into correct composition.

I realise that a lot of this explanation will be lost or boring to the model railway person who is content with a simple layout which avoids grappling with prototype considerations. Even as it is this layout only skims the working characteristics of real railway performance but it is about all that can be adopted in a miniscule representation of the actual thing.

PORT. As already related this follows the usual crowded trackage of a maritime yard feeding wharves etc., with a double crossover leading to a succession of 3-way points fanning out to another six single switches in a compressed area that requires a sharp eye for route setting. The reverse loop enables trains to enter Port from either direction according to the point setting at Port Junction and is used mainly to turn steam locos as there is no turntable at this terminal.

So, on sessions with limited staff, the controller at Port has to handle all the

movements required at the three stations on his division and therefore is seldom seen reading Shakespeare during that process.

*To be continued
Other articles in the NSW series by Frank Shennan have been published in the March/April 1977 and September/October 1977 issues of this magazine.*

Suburton Station. A diesel-hauled freight drifts by a tranquil scene with scant activity in the yards during a lunch break.



BUILDING 4 WHEEL GOODS WAGONS

Ron Cunningham discusses the many ways of attaching axle boxes to four wheeled goods wagons.

The background:

About two years ago I made the decision to switch from following U.S. prototype to modelling a system a little closer to home, namely the NSWGR.

Developing a new system from scratch presented me with the opportunity to decide which facets of railway operation I wanted to emphasise and then plan my rollingstock and locomotive building and acquisitions accordingly. The decision for me was easy as I have always been interested most by that area of railway operation which is the reason for their existence, and that is the moving of freight. To me, a goods train with its jumble of different wagons has a character of its own and each train is an individual.

Allied to this I enjoy the operational aspect of goods trains, with their shunting operations providing both layout and operator with a purpose, as if part of a larger system. (Reliable rollingstock and layout design are the keys to good operation).

One final plus for goods wagons I discovered only after I had made the switch to the NSWGR with its four-wheelers and noticed the deceptive appearance of the smaller wagons. A five foot long train made up of fourteen four-wheelers appears longer than a similar length train made up of say, eight bogie vehicles or five passenger cars, and this adds realism to a layout.

Having decided to model that area which is generally neglected by modellers (and preservation enthusiasts as well) all I had to do was settle on a time period. Here I decided to stretch the facts a little. I wanted to operate pre-diesel so I chose the early 1950's as a cut off date. But I also had in the back of my mind the thought that I might one day construct a small period layout set in the 1890's, so I decided to run any vehicle which had appeared on the NSWGR prior to 1950 which, given the vintage of some of the rollingstock still in operation, may not be that far wrong anyway.

The Problem:

I began researching and some preliminary building but the construction of a layout is proceeding rapidly and many more goods wagons of various types are needed urgently.

The Answer:

At first I constructed a few individual bogie vehicles such as MBC, MRC, BCW and H wagons but the real key to the problem lay in how to mass produce four-wheelers, and it was whilst researching the various types that I found the answer to the problem in the way the NSWGR themselves built these wagons.

From its inception the NSWGR had built a variety of four-wheel wagons and, by the early 1900's when the original S wagons were built, had settled on a standard 18' underframe with a 10' wheelbase. In the 1940's and 1950's a replacement program saw the ordering of 10,000 underframes and components from Commonwealth Engineering, with Railway Workshops providing the bogies but, whilst the majority of these underframes were used for S wagons, a whole range of four-wheelers were developed utilising the standard underframes. At least eight body types (including rebuilds) were constructed on these underframes and in 1970 the following vehicles were still in service (But are being retired at a fairly rapid rate — see the ARHS monthly Digest for retirement figures)

Cattle wagons	(CW)	338
Sheep vans	(SV)	8
Louvre vans	(LV)	165
Covered vans	(CV)	34
Biscuit vans	(ABV)	55
Powder vans	(PV)	58
Open wagons	(S)	6826
Oil drum wagons	(SO)	11

Flat wagons	(BF)	12
Cane flats	(CF)	21

(For further information see John Beckhaus' "Railway Freight Wagons of NSW")

The answer then was simple. Considering I might eventually want 50 of the various types mentioned I should do as the prototype did — develop a standard underframe, mass produce it and then add the different body types as required. The remainder of this article is a discussion of the various underframes I have tried and following articles will deal with the actual building of the body types.

Before examining the underframes I should mention some of the characteristics I look for in my rolling stock and which coloured my assessment of the kits tested.

The first is its free rolling ability. My own test is to see if the vehicle will roll down a 1 in 36 grade, and much experimentation has led me to the conclusion that the only way to consistently achieve this is to use pin pointed metal axles with wheels that have a metal tyre. These should be mounted in a brass bearing of the type put out by MGW. (See Jan/Feb issue for excellent review of this product). I also look for a wheel with RP25 flanges and contour, but this is only a personal preference of mine against overly large flanges. The other points mentioned above are I feel essential if you want good reliable operating performance. Here, the main lesson I have learned is . . . NO PLASTIC WHEEL SETS PLEASE.

A second hint for trouble free operation (i.e. minimum derailments) is to weight each vehicle to about 3 to 4 ozs. If you use Kadee couplers this is recommended by the manufacturer anyway, but you will be surprised at the difference the weight makes to a vehicles stability, especially when being push-shunted. I have been involved in several discussions over this point and it is often argued that the extra weight reduces locomotive pulling capacity, but it is my experience that it is the poor rolling ability of rollingstock wheels that limit loco performance and not the extra weight to any appreciable extent.

The above combination of good wheel sets mounted in brass bearings, together with properly weight vehicles should eliminate many of the delays caused by derailments (given good trackwork and a regular maintenance program of both track and rollingstock that is).

Based then on the above observations the wheel sets I have settled on are Berg's 10.5mm spoked (a bit expensive at around 60c per axle) and a newcomer to Australia in MGW 10.5 mm, in both spoked and disc variations. These are cheaper at around 25c per axle but have a heavy tyre and larger than RP25 flanges. Also, the tyres and axles cause problems for Kadee magnetic uncouplers but, accepting these factors (which can be remedied), are quite good wheels. The other MGW product which is essential is their brass bearings. These are turned on a lathe (not punched) and, together with pin point metal axles, can be used on any of the underframes mentioned below and will give excellent rolling qualities in your rollingstock.

With the problem of wheel sets covered the next item is the underframe itself. The main aim here was to find presentable underframe with axle boxes which look reasonably like the NSWGR variety. I have experimented with five main types, Peco, Ratio, PMH, Workshop 5 and Mopok and my experiences are as follows: **PECO** . . . 10' underframe kit. This kit suffers from the British disease in that it is in OO, and so the axleboxes have to be juggled around to get a HO 10' wheelbase. This is not really a problem because the axleboxes are separate from the sidebeam and are to be glued to the floor of the vehicle via a metal bracket. The end beams have to be narrowed to HO 8' but, again, this is not a problem. I found the method

of springing to be a nuisance, particularly as the wagon developed a noticeable lean as one of the plastic springs sagged. Eventually I glued the springs in place to the metal support. This underframe has its own bearings which are not as effective as the MGW product and this underframe failed my rolling test. Also, from the cost aspect at around \$2 each — unsatisfactory.

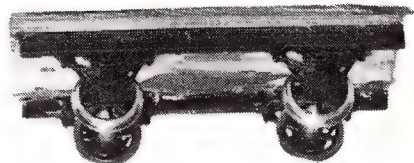
RATIO . . . 10' underframe kit. Again, the problem of being in OO and to modify it to suit HO requires a little work but, as it turned out, I found this to be one of the best to use, so I will explain its modification in detail.



The solebar and axle boxes as supplied.



The cut down solebar/axle box assembly.



The assembled chassis.

The kit comes with all the pieces joined on a plastic sprue, with the main pieces being two sideframes and two end beams. The wheels, brake details, etc. I consign to the bits and pieces box and do not use them on the underframe. The two sideframes have cast-on axleboxes which, in HO, are 11'6" apart. They also have a piece cast on at right angles to the sidebeams which, when the two frames are joined, makes up the floor of the wagon. Now, to shorten the wheelbase I found it best to first remove completely the floor piece so that just the two sideframes remain. (See Fig. 1) After this is done file the top of the web on each side beam down considerably so that when the body sits on the underframe it will sit as low as possible. Next, cut each sideframe about midway between each axlebox, and then remove sufficient of the beam with a file to give a 10' wheelbase in HO. This requires some accuracy to ensure that each sideframe has the same wheelbase length, otherwise the axles of the assembled frame will not be parallel. A simple jig could be used here to ensure accuracy, but so far I have not found it necessary. Once the right amount has been removed from each beam rejoin each half by gluing a piece of plastic from the discarded floor piece across the back of the join. Use a five minute epoxy so that you have time for minor adjustments to ensure the pieces go together square and straight. A flat surface and the edge of a steel square is sufficient for this purpose. (see Fig. 2). Once dry, insert MGW bearings into the existing holes in the axle boxes (you may have to tap the holes out a little to take the bearings but this is no problem) and the sideframes are ready for assembly.

Putting the sideframes together again requires some accuracy. I use a jig, which

consists of two parallel plastic strips (discarded floor pieces again) glued to a flat board with the inside distance between them representing the width of the vehicle measuring from the outside of each sideframe. The sideframes are placed against these guides and a flat wedge placed between the frames to hold them firmly in place. The sideframes and axleboxes should be vertical. Place the wheelsets into the bearings and square the sideframes and wheel axles up. This is the tricky part (if anyone can design a better jig to do this I would like to hear about it). When this has been done glue temporary bracing, again from discarded floor material, across the bottom of the side beams and, when almost dry, remove from the jig and test on a piece of track. If all has gone well it should be square and sit evenly on the rails with all four wheels in contact so that the wagon does not wobble. If the glue is not yet dry you can usually make any minor adjustments necessary. Next, glue the underframe to the floor of the wagon body taking care to square everything up and, especially, to get the wagon sides vertical. You can then remove the temporary bracing by dissolving the five minute epoxy with vinegar; add couplers, buffer beams and buffers and the wagon is ready for running. If you like, you can add underbody detail but, at this stage, for me, this will have to wait till later.

I have constructed a batch of 30 CW's and about 15 other wagons using this method

but the plastic used is very hard and brittle, which makes it difficult to work with. Again this is not a problem if used as is. With the addition of MGW bearings rolling ability is good, but the finish and detail of these castings is rough. On the plus side they are cheap and ready to roll, if you don't want brass bearings.

WORKSHOP 5 MODELS. This manufacturer produces a fine range of NSW rolling stock, mainly passenger, but included in the range is an S wagon which uses a cast side frame. This can be used for other wagons as well. I purchased 20 sets of sideframes and have been making them up into standard underframes. They are made from cast epoxy which is brittle and care must be used in assembly, but the detail is quite sharp and excellent. Since I purchased my sideframes they have been improved and now come with a hole and find the result most satisfactory. The kits I purchased cost 85c each but, with the devaluation/revaluation saga of late, this will probably have changed. However, even at around a dollar each this method produces a good result at an economical price.

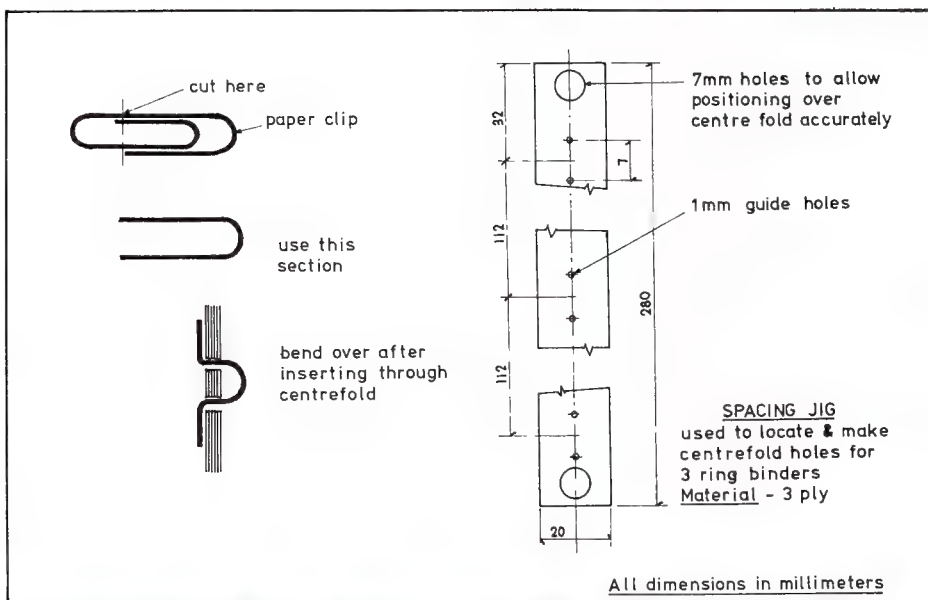
P.M.H. standard underframe kit. This is a one piece cast plastic H0 10' wheelbase underframe produced, I imagine, with the aim of doing just what I was attempting to do — provide a standard underframe. I modified a couple by cutting off the buffer beams and substituting my own to improve appearance and to allow the fitting of MGW bearings,

ready for MGW bearings and have a strip joined at right angles to the sideframe similar to the Ratio kit. This should reduce twisting. These are an excellent item but, as I understand Workshop 5 is flat out with normal kit production, you may have difficulty obtaining them.

The final method I have tried is to build up an underframe using Northeastern strip wood and then attach individual axleboxes cast from white metal. These are available from local sources, or as imports from the U.K. I use ones manufactured by MOPOK which I purchased from Fyren Models in Melbourne and Keith Hudson's in Sydney. This technique is very simple and an underframe can be constructed quickly. When building vehicles such as open wagons which have a thin floor it is best to use this method. The axle boxes cost about 50c a set of four and, when used with MGW bearings, produce excellent rolling capabilities. They are the least expensive method and produce a good result. I use this method on all my old-time wagons.

Well, that covers all the methods tried so far. My recommendation is to use Ratio when constructing vans and to use MOPOK axleboxes on older rollingstock and all open trucks.

AN ECONOMICAL BINDING METHOD



Whilst browsing through some 20 year old magazines the writer came across an idea which was adapted and used to 'bind' many years of AMRM at very low cost. With the present cost of binding professionally exceeding the cost of the magazine several times over this method may appeal to many modellers.

The method is to use a section of the ordinary office paper-clip inserted through the centrefold of the magazine from the outside and bent over as shown. Three clips are used per magazine, equally spaced, giving three loops along the fold which are hooked over the three-ring binder rings. The advantage of this method over punching holes is that plans and diagrams are left intact and the magazine can still be professionally bound at a later date.

It is suggested that the spacing jig be made to ensure the loops are correctly spaced and each magazine "lines up" in the binder. A drill or punch is used through the guide holes after the jig is positioned on the magazine. Twelve issues of AMRM can comfortably fit into a 40 mm wide binder. Admittedly this job becomes tedious after a few years of magazines, however it is something that can be done while the glue is drying on a model project or watching the 'tube'.

J.S. Glastonbury.

The photograph illustrates the magazines fitted with the clips and held in place by the binder.

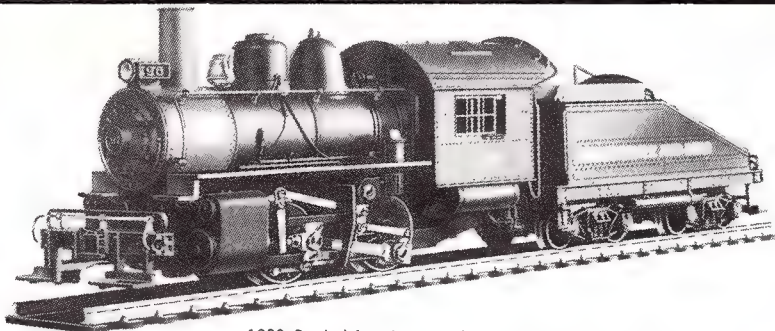
MORE MUSCLE

Continued from page 32

polarity to the original motor. This makes sense when you remember that there are rubber bands over the geared side of the wheels, thereby insulating the, which would mean that no power could go through the diesel if both sets of insulated wheels were on the same side of the diesel.

Solder the wires from the motor bogies together ensuring that you have soldered the wires in such a manner that the power will go through the two motors and not straight from one track to the other.

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HO/OO

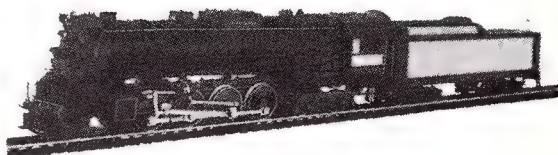
1280 Berkshire Locomotive painted in the black, blue & gold colours used in the "Golden Spike" centennial of the east-west crossing of the American Continent by rail. Detailed Baker valve gear with working headlight .

..... \$67.50

HO/OO

1225 B. & O. 0-4-0 Switcher with 8-wheel slope back tender, working headlight, operating valve gear. Black with red cab roof, silver smoke box & door, plated handrails and staunchions, ring magnet motor drives onto rear axle, length 185mm

..... \$42.50



2973 Set of four modern smooth sided American coaches in the pleasing blue and gold colours of the American "Golden Spike" Centennial - 3 roomettes and 1 tail car

..... \$35.00

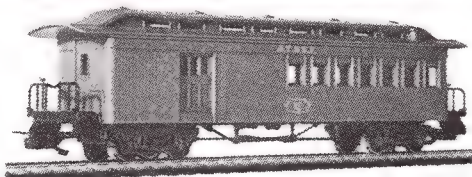
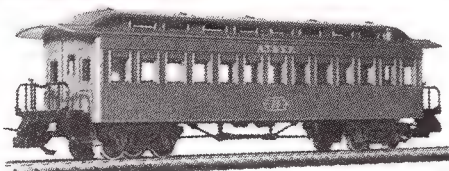
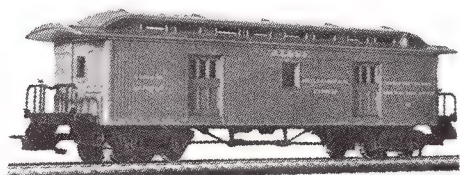
HO/OO

AMERICAN OLD TIME COACHES

2617 Baggage Car A. T. & S. F.	\$6.50
2618 Combine A. T. & S. F.	\$6.50
2619 Coach A. T. & S. F.	\$6.50
2992 Baggage Car - Virginia & Truckee ..	\$6.95
2993 Combine - Virginia & truckee ..	\$6.95
2994 Coach - Virginia & Truckee ..	\$6.95
2995 Baggage Car - Kansas, St Louis & Chicago ..	\$6.50
2996 Combine -Kansas, St Louis & Chicago ..	\$6.50
2997 Coach - Kansas, St Louis and Chicago ..	\$6.50

OLD TIME AMERICAN FREIGHT CARS

2310 Box Car - Missouri Pacific ..	\$5.75
2311 Box Car - California Fast Freight ..	\$5.25
2312 Flat Car with stakes - Virginia & Truckee ..	\$4.95
2313 Gondola - Virginia & Truckee ..	\$4.95
2316 Flat Car with Tanks - Virginia & Truckee ..	\$4.95
2347 Box Car - Illinois River Packet Co.	\$5.75
2348 Gondola - A. T. & S. F.	\$5.75



N

9002 "Little Freight of Baltimore" B. & O. 0-4-0 loco with slope back tender, three assorted freight cars and a caboose

..... \$39.95

9007 "Chippewa Hiawatha Limited" of the Milwaukee Road. 4-6-2 loco with a Pullman, Combine and Observation Car with end platform. All in a striking Orange and Chocolate livery

..... \$65.00

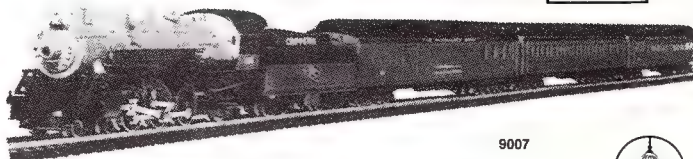
9008 "Capitol Limited" of the B. & O. Pacific Locomotive with a Pullman, Combine and an Observation Car with end platform. Set is painted blue and grey

..... \$57.50

9010 "Shenandoah Freight" Mallet Y6B Articulated Loco with eight assorted freight cars and caboose - Loco & caboose Norfolk & Western. Length of train 1000mm

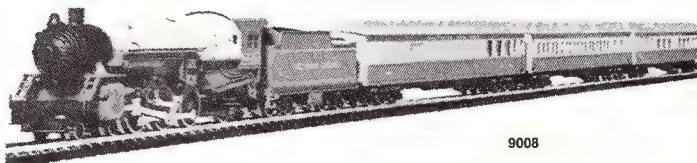
..... \$117.50

CHIPPEWA HIAWATHA LIMITED



9007

Capitol Limited



9008

New lines to come:-

HO/OO

- 246 "Timberjack Train" - Heisler Loco with three logging trucks
- 312 L.M.S. "Royal Scot" - 4-6-0 Loco with four coaches
- 2937 L.M.S. "Royal Scot" - four coaches without loco
- 1219 Heisler Logging Loco
- 1348 L.M.S. "Royal Scot" 4-6-0 Loco
- 2349 Logging Car with logs
- 2933 L.M.S. Coach

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Prices in this advertisement are recommended prices only and there is no obligation for dealers to comply with the recommendation.

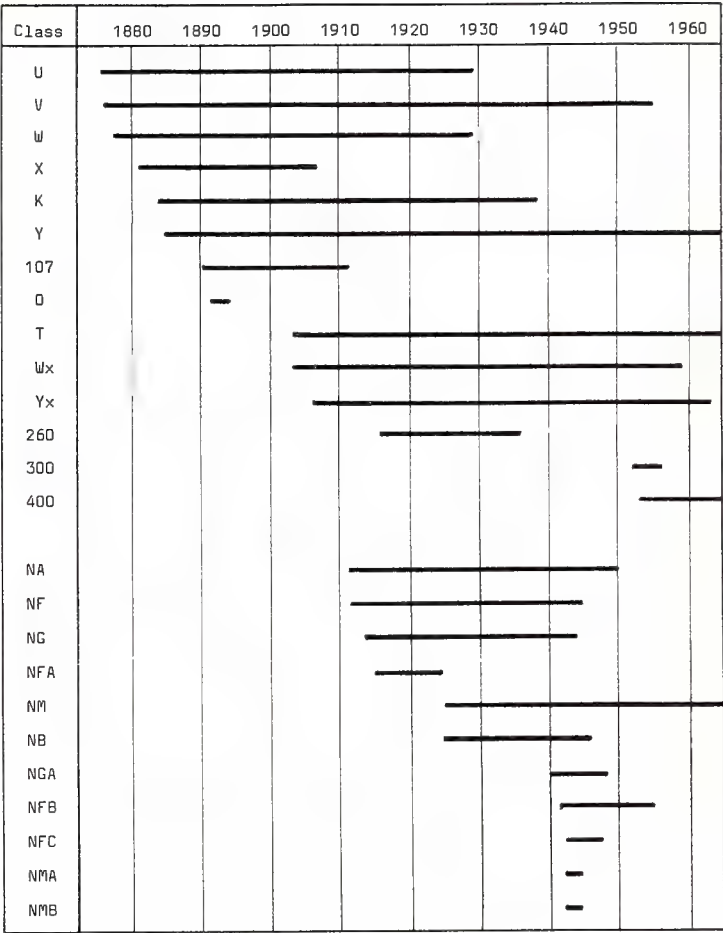
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AUSTRALIAN MODEL CRAFT CO., 577 Dean St., Albury, N.S.W. 2640 (P.O. Box 118)

STEAM ERA — South Australian Narrow Gauge

Ian Cutter continues his series on steam locomotives.



Class	Type	No.	Service	Notes
U	2-6-0	8	1876 - 1929	
V	0-4-4T	8	1877 - 1955	ARHS Bulletin, 6/76
W	2-6-0	36	1878 - 1929	Drawing AMRM, 7/75
X	2-6-0	8	1881 - 1907	
K	0-6-4T	1	1884 - 1938	ARHS Bulletin, 3/45 & 8/75
Y	2-6-0	129	1885 - 1970	
107	0-4-0ST	1	1890 - 1911	"Sandfly"
O	2-6-2T	1	1891 - 1893	
T	4-8-0	78	1903 - 1970	Drawing AMRM, 1/69
Wx	2-6-0	16	1903 - 1959	
Yx	2-6-0	58	1906 - 1953	
Kitson		2	1906 - 1935	Steam motor
260	0-4-0ST	1	1916 - 1936	ARHS Bulletin, 3/75
300		6	1952 - 1956	See "Australia's Garratt"
400		10	1953 - 1970	
NA	0-4-0ST	1	1911 - 1950	"Sandfly"
NF	2-6-0	6	1911 - 1945	SAR W class
NG	2-6-0	6	1913 - 1944	QR B13 class
NFA	2-6-0	1	1915 - 1925	
NJAB		1	1921 - 1930	Kitson steam motor
NM	4-8-0	22	1925 - 1967	QR C17 class
NB	0-6-0ST	2	1925 - 1946	
		1	1930 - 1936	Sentinel steam coach
NGA	4-6-0	13	1940 - 1948	WAGR G class
NFB	2-6-0	18	1941 - 1955	SAR Yx class
NFC	2-6-0	13	1942 - 1948	WAGR G class
NMA	4-8-0	4	1942 - 1944	SAR T class
NMB	4-8-0	11	1942 - 1944	QR C16 class

The previous installment of the "Steam Era" series dealt with the South Australian Railways, but considered only the broad gauge system. This time we turn out attention to the 3'6" gauge. This was originally in four separate sections, the Northern, Palmerston, South Eastern and Port Lincoln Divisions. In 1911 the Commonwealth took over the Palmerston Division and Part of the Northern, and in the late 1950's the South Eastern Division was converted to broad gauge.

Because of the close association between the SAR and the CR it is convenient to consider both narrow-gauge systems together. As in previous articles the data is presented in the form of a table and a chart. The usual reservation applies to the date of withdrawal from service — for example, the ASG's are unlikely to have seen much service once the 400 class arrived. The number of locomotives listed as belonging to each class should be about right but I may have lost a Y class or two. The graph stops at the year 1965, but reference to the table will show which classes survived this date.

In compiling this information I must acknowledge a considerable debt to "Locomotives of the SAR" by Marshall and Wilson, and "Locomotives of the Commonwealth Railways" by Fluck, Marshall and Wilson. Other references worth noting are "The Mile End Railway Museum" and "Proceed to Peterborough" both published by the Australian Railway Historical Society in Adelaide in 1970, and "Locomotives — Steam & Diesel Electric — and Rolling Stock" published by the South Australian Railways in 1964.

In addition to the locomotives mentioned in the table, the SAR on occasion borrowed A and Y class engines from the Silverton Tramway. Their Y class was indistinguishable

from the SAR Y class, and the A was a 4-6-0 introduced in 1912. The Silverton Tramway Company had in fact only two other classes of steam locomotives, the four W class 4-8-2's which were identical to the WAGR engines of that class except for the streamlined casing along the top of the boiler, and two 2-6-2T engines. A list of Silverton Tramway locomotives appeared as a supplement to the Australian Railway Historical Society Bulletin for April, 1962.

Although the graph shows which classes

SOUTHERN CROSS MODEL RAILWAY ASSOCIATION.

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322 Elizabeth Drive,
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Phone (02) 602 3117

Victoria:

Herb Drury,
39 Allenfield Crescent,
Boronia, 3155.
Phone (03) 231 2649

of locomotives were in service at any one time, it must be remembered that the locomotives may not have been in service on the same division. For example, the K class spent most of its life at Peterborough as did the Silverton A class when working on the SAR, "Sandfly" operated on the Palmerston Division, and the Garratts were restricted to the Port Pirie — Terowie — Cockburn area. In 1902 the motive power of the South Eastern Division consisted solely of 16 W class; the Palmerston Division had 5 engines of this same class but at least there was "Sandfly" for variety. In contrast, all ten classes, with the exception of the above-mentioned "Sandfly", were represented on the Northern Division.

The steam era began to draw to a close with the introduction of the NSU class on the Commonwealth Railways in 1954 and the 830 class on the SAR in 1962. Regular steam working could be said to finish in 1969 on the SAR and 1961 on the Silverton Tramway.

MARKET PLACE FOR SALE

Continued from page 54

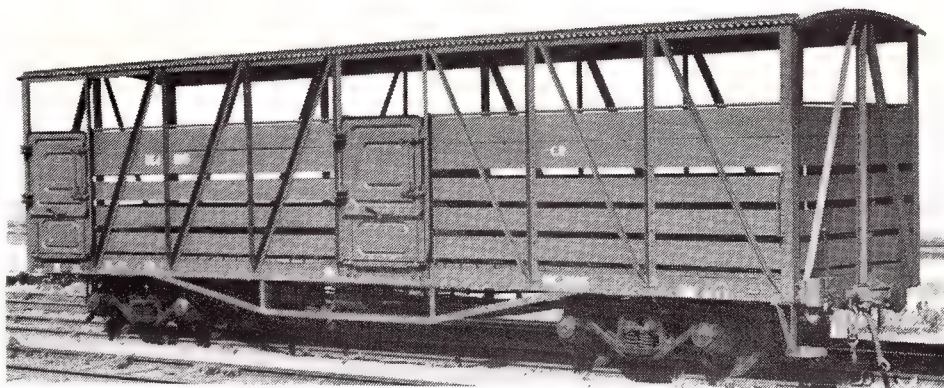
HO Brass locos and coaches — write for list showing description, price etc. Will trade for HO logging or HO3 items. M. Gottliebson, PO Box 69, Trafalgar 3824, Victoria.

BRASS 32, C36, C38, 48, D50. Tenshodo SD9. Loco kits for C30, C30T, C35, C36. Other locos. Rolling stock kits, parts, accessories. Mail only. No callers. SAE with enquiries, offers. Burke, 2 George St, Barnsley 2301.

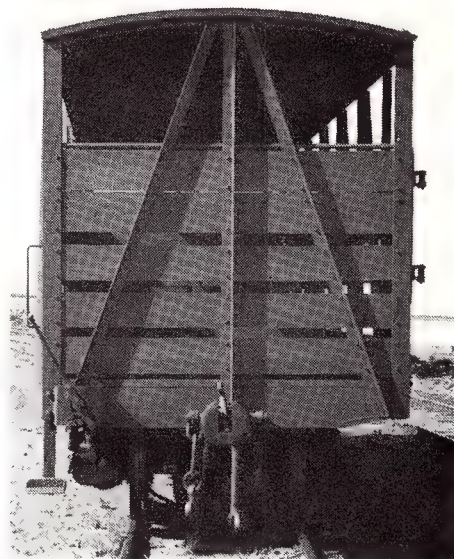
HO Layout for sale. New South Wales Model Railway Club layout complete with auto colour light signalling, control panel, working coal loader, etc. Trailer for transporting also available. Offers in writing to: The Secretary, 9 Duneba Drive, Westleigh, NSW 2120.

PROTOTYPE PLAN

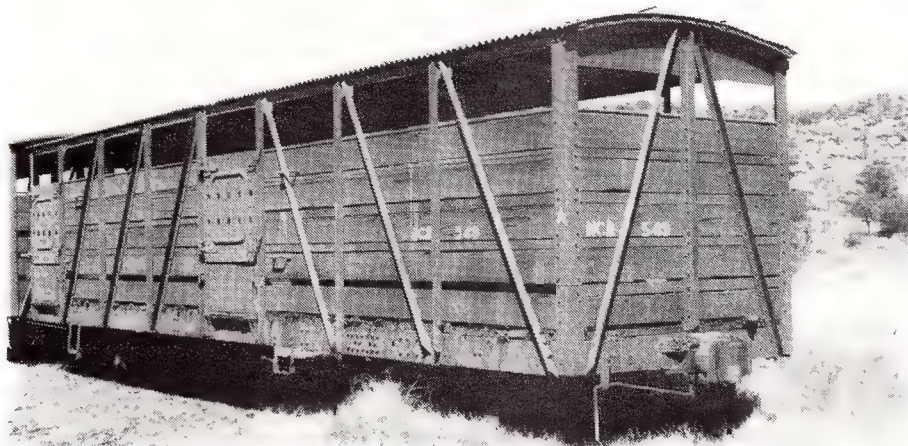
C.R. NCd/CD Cattle Wagon



NCd 1195 shortly after assembly. Photo by courtesy of Australian National Railways.



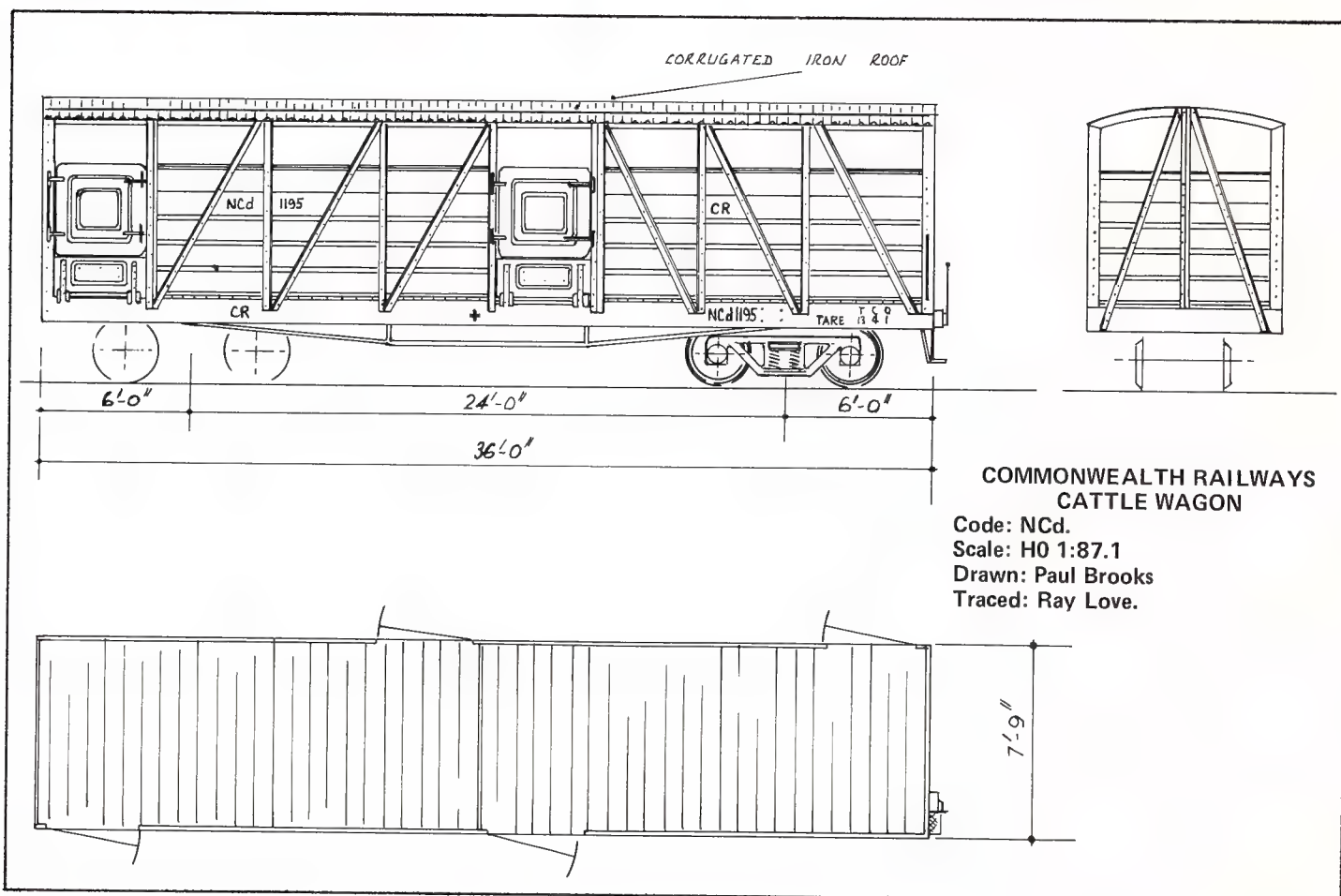
End view of NCd 1195. Photo by courtesy of the Australian National Railways.

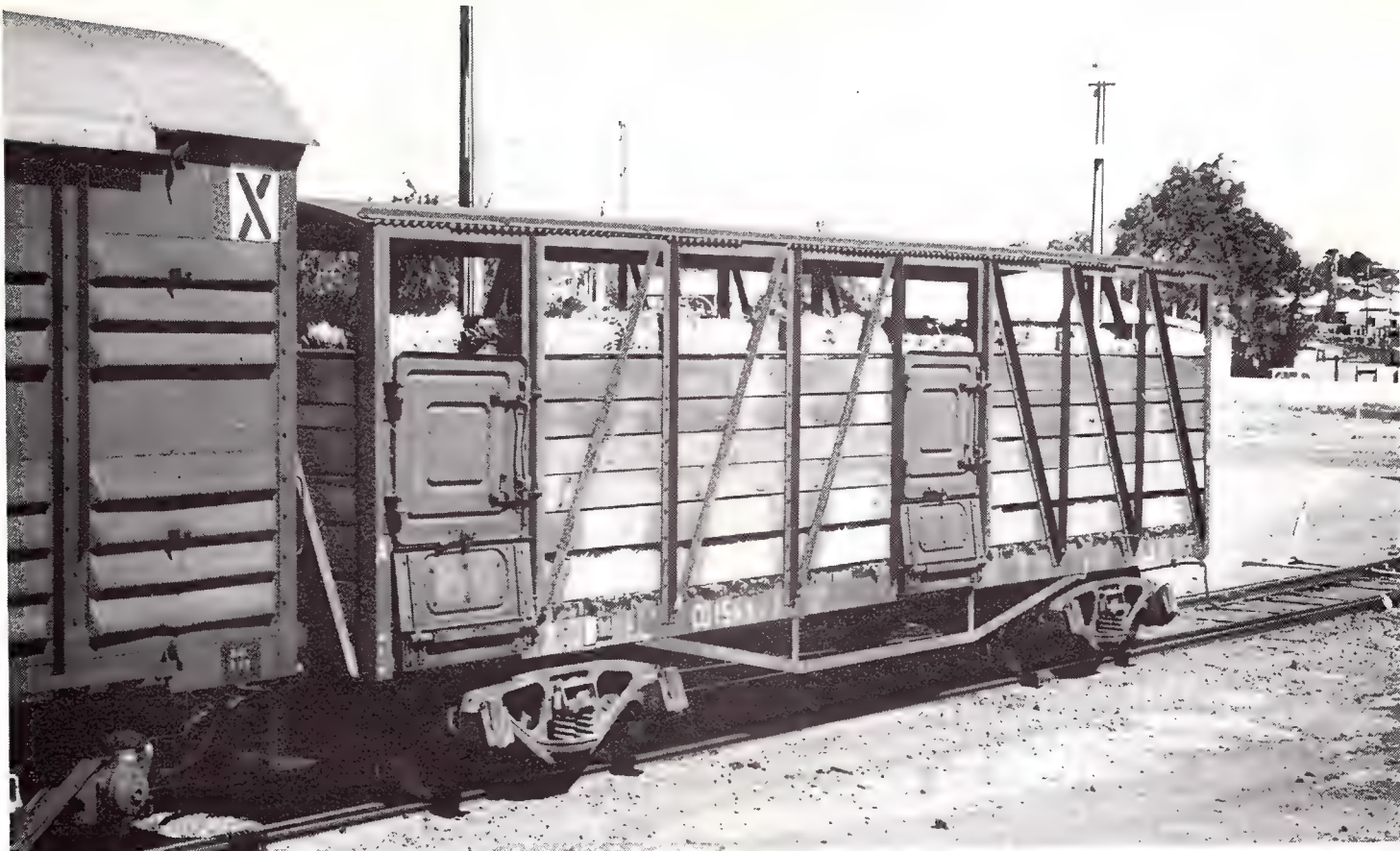


NCB 549 at Alice Springs. Terry Burton photo.

These narrow gauge vans were manufactured By Gregg & Co. of Belgium and were assembled by the Commonwealth Railways at Port Augusta in 1953. The sixty vans in the class were given the number sequence 1191 to 1250. Twenty four of these vans have been converted to standard gauge and reclassified as the CD class, two vans have been written off while the remaining thirty four are still in service on the Marree — Alice Springs section of the Central Australia Railway. The CD class can be used over all of the ANR standard gauge lines but traffic requirements usually restrict them to the Port Pirie — Marree area.

No major rebuilding has occurred in this





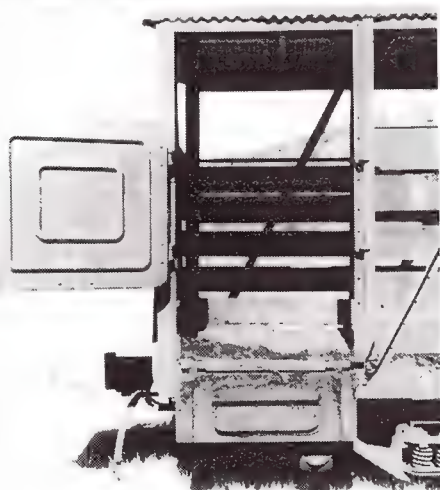
The above photo of the converted CD at Port Augusta, shows that the side frames of the standard gauge bogies are almost as wide as the body of the wagon. A modern VR 'VLX' gives an indication of the size of the CD. Instead of cattle the CD is carrying baled hay. Photographed by Phil Curnow 2.12.73.



The above photo by Terry Burton shows the seldom modelled underbody detail.



Roof detail of a NCD. Photo T. Burton.



Door opening detail of NCD. T. Burton photo.

class so they remain structurally similar to 1195 when photographed soon after assembly with Spencer Gulf as the background. Distinctive features of this class are the doors (which have the pressings facing inward), angle iron trusses (instead of rodding and turnbuckle) with a

ratchet brake lever mounted on the end of the vehicle.

Compare the NCD with the NCB which was photographed at Alice Springs. Note the outward pressings on the NCB doors which also have two rows of punched holes. The lower door on this wagon is sheet steel but others of this type have an outward pressing and no holes. There are no truss rods on this vehicle and a ground throw brake lever is fitted. When freshly painted the CR rollingstock was a deep reddish brown however this quickly weathers to a reddish maroon.

Details were compiled by Phil Curnow. Special acknowledgement for assistance go to Australian National Railways; Terry Burton; Hugh Williams. The original plan was drawn by Paul Brooks, and is reproduced from the pages of *BUFFER STOP* with the kind permission of the South Australian Railway Modeller's Association. Ray Love traced the plan.

ENQUIRY CORNER

Graeme Holmes, in association with a few HO and N scale modellers are attempting to form a Model Railway club in the Hunter Valley. Any reader interested can contact Graeme at 3 Hume Close, Singleton Heights or by ringing (065) 72 2640.

APOLOGY

A printing error appeared in the September/October 1977 issue of the Australian Model Railway Magazine. The error was in the photograph accompanying the Australian Railway Historical Society advertisement on the book "Steam in Australia". The staff and management sincerely regret the out of focus exposure and assure the readers of AMRM that the quality of the original print was not as was printed in the September/October 1977 issue.

The ADVERTISING DEADLINE for the January/February 1978 issue closes on 16.12.77. All copy must be in hand by the said date.

The expected publication date for the January/February 1978 issue of A.M.R.M. is 1.2.78.

EXHIBITIONS

GEELONG — Victoria. Australia Day Weekend, Jan. 27 to 30 at the Waterside Workers Hall. Open Friday 1800-2200; Sat. 1000-2200; Sun. 1000-2100; Mon. 1000-2000. Admission 80c/30c. Organised by the Corio Model Railway Club.

MELBOURNE — Victoria. March 10th to 13th at Camberwell Civic Centre. Open Fri./Sat. 1000-2200; Sun./Mon. 1000-2000. Admission 90c/40c. Organised by the Australian Model Railways Association, Victorian Branch.

MAILBAG

Sir,
Several times in the past I saw your magazine in newsagents, but because the word "Railroad" appeared in the title, I assumed AMRM, to be American in origin. The present "Railway" removes this impression.

A year ago, a friend pointed out the article in the Sept./Oct., '76 AMRM headed "40th Anniversary". Thank you Jack Page for reviving such nostalgic memories! I remember all those in the photo, and recall the many happy hours we all spent in the Railway Institute with the O and HO layouts; but I have no recollection of ever winning a contest!

I thought I had developed an immunity to the model railway virus, but that article made me realise that it was merely dormant! So much so that I immediately determined to build another layout. Because we live in a flat and space is very scarce, I decided upon N Gauge. So here I am at 73 years of age laying track and building scenery, etc., with as much enthusiasm as I hope I displayed forty years ago!

I was astounded at the giant strides the hobby has made since 1936, and at the incredible range of components presently available, especially kits such as Pola and Kibri. I have put several of these together, and admire the skill in the design allowing the many parts to fit together so accurately.

My tendency is to fit buildings (except small lineside structures) with interior lighting, but how can I prevent the light from shining through the WALLS? I should also like to insert some kind of resistance in the 12 volt DC line to run the lamps on a lower current to preserve their life. I've tried a resistor or two, but these begin to smoke very quickly and are obviously overheating. Any suggestions? And has anyone done any experiments with fibre optics for small scale colour light signals?

I was astonished to read that the Editorial Staff is all voluntary! That's dedication for you! My congratulations on that and on the change from RailROAD to RailWAY. Model Railroading now becomes "Railway Modelling", eh? Greetings to Frank Shennen, Norm Read and Len Clarke, whose names I have seen in AMRM.

Leigh Tingle,
Figtree, NSW

Sir,
In January this year, my wife and I had the good fortune to be able to visit Hong Kong. Having heard the saying that "you can buy almost anything in Hong Kong", I made a list of all the model railway stuff that I

needed, but found when I got there that the "almost" meant "except model railway equipment". We tried countless places, but found that each shop only carried one or two boxed train sets. The shops where I finally bought some locos had never heard of PECO track or KADEE couplings.

It would appear that the model railway market is set up only for the tourists, as pointed out by the shopkeeper, that most of the people could not afford them. This could be so, as the wages of the room service boy in our hotel was \$HK700 per month, which equals approx. \$HK175 per week, and the average JOUEF loco of \$HK78 doesn't leave much change out of the weeks wage. (Five Hong Kong Dollars equal one Australian Dollar.) Besides, the bulk of the population live in apartment blocks where a family of four is allotted an apartment of approx. 500 sqft, and larger families are in apartments of approx. 35 sqft extra per person over four, so they just would not have the room to operate model trains. We saw only a couple of houses with front and back yards as we know them.

My list included a RIVAROSSO 1829, to make Domenic Tarranto's 42 Class in issue 78, but I could not get a TYCO dummy as it was explained that TYCO is only made in Hong Kong for the overseas manufacturers, so I bought an ATHEARN dummy back here. The shopkeeper couldn't understand why I wanted to buy a loco only to pull it to pieces to make another one out of it. I carried around with me, the book "Modern Locomotives in service on the New South Wales Railways" with various dimensions marked in to scale. Another loco purchased was a RIVAROSSO 1832, which I intend to convert to a 45 class, as the bogies are almost identical but just over scale. A quick glance indicates that the cab could also be used. This loco was \$HK161 which would also be a big slice out of the weekly wage again. We were told that middle class people pay rent of about \$HK800 per month for their apartments, so it would appear that you would have to be well off before you could start thinking of model trains.

I was hoping to pick up some LIMA C38s, but found only one shop that stocked single LIMA locos and C38s were not on his list. Apart from the odd HORNBY train set and some BACHMANN F7 diesels, the most widely sold brand seemed to be JOUEF. The other locos I purchased were all JOUEF, (a) No. 8527 which Allan Brown reviewed and noted that the wheelbase was identical to and to scale for a 70 Class. (b) No. 8436 (I think No. 8451 could also be used) which has bogies with the wheel centres at the correct spacing for a 40 class, although the plastic sides of the bogies will have to be cut off and replaced with sides of correct profile. The chassis will have to be shortened and I am now wondering if the FREIDMONT body kit as reviewed by Bob Gallagher, would fit. (c) No. 8542 which is very close to a 46

class. The bogies will have to be modified to provide the unequal spacing. The motor bogie may have to be altered using a slot car gear wheel or a small gear wheel out of a clock, the chassis shortened and the body altered to suit. So I have a lot of modelling work ahead of me.

While we were in Hong Kong we had to have a trip on their railway. This may be another reason why there is not much interest in trains as their railway from Kowloon to Lo Wu at the border with China, is only approx. 33 km long of single track with passing lines provided at stations. I've enclosed a copy of their timetable as there would be plenty of room in the magazine to reproduce some of it full size. Lo Wu is a closed area, so tourists can only go as far as Sheung Shui. We went to Taipo Market as we wanted to go to the market to see another way of life and we were not disappointed. My wife always carried a tape measure to check clothes for our children, so while at Taipo, I got out the tape measure and measured the track. It is 4' 8 1/2".

The locomotives and carriages are all painted dark green, they are very clean and have piped music. (That is in first class, I don't know if the piped music is in second class, but they have wooden seats.)

There is a lot more headroom than in our trains, because the carriages have smaller wheels but the overall height seems to be the same. I do not know why they have so much headroom as the Chinese people are not as tall as us. The Hong Kong Government is now working on an underground railway to link Hong Kong Island by a tunnel under their harbour, to the Kowloon peninsula on the mainland. (About 1.5 km away.)

If any reader intends visiting Hong Kong and wishes to bring back any models, remember that Australians are allowed to bring back a total of \$A200 worth of goods, ie gifts and souvenirs, duty free, but anything over that may be subject to duty.

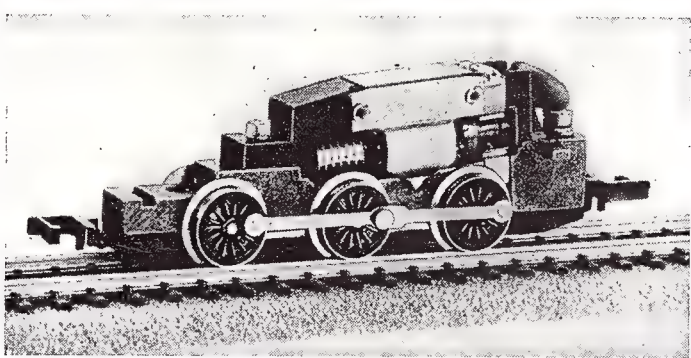
Eddie Garde,
Blaxland, NSW

Sir,
Is there any modeller in Australia who is working in either:-

(a) Proto 87: A description of which was given in the August, 1975 Model Railroader magazine, and which is exact scale standards for HO. Note that while the name and principles are similar to Proto 4 the latter standards are for 4 mm scale. I am interested in 3.5 mm fine scale standards.

(b) Broad-gauge HO: That is, models of Australian broad-gauge railway stock built in 3.5 mm scale but made to run on a gauge wider than 16.5 mm. Similar in idea to the work of Frank Kelly whom, I believe, works in 4 mm scale on a 21 mm gauge. A broad-gauge HO model would run on a gauge near 18 mm.

Ern Raddatz,
St Albans, Vic.



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... As its new mechanism will be employed also in other locomotives, we venture to suggest that GRAFAR'S 'N' gauge future has never looked brighter. ...

British Toys & Hobbies, November 1976

... We have no hesitation whatsoever in giving this superb British-made mechanism our unreserved recommendation ...

... We are delighted with this superb model, which must forward the modelling of British 'N' gauge. ...

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NE4W	GWR Hall Class Mainline Loco
NE4BR	BR Hall Class Mainline Loco
NE5BR	Battle of Britain Class Loco
NE5S	Merchant Navy Class Loco
NE6W	GWR Prairie Tank Loco
NE6BR	BR Prairie Tank Loco
NE7M	LMS General Purpose Tank Loco
NE7N	LNER General Purpose Tank Loco
NE7S	SR General Purpose Tank Loco
NE7BR	BR General Purpose Tank Loco

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CAST CHASSIS, ALL DIECAST
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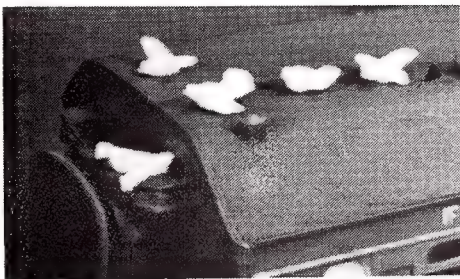
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REVIEWS



WESTON pigeons in HO scale by Campbell Scale Models. Sample supplied by McBees Hobby Centre, PO Box 144, Coburg 3059. Price: \$1.15.

The model railway hobby has developed in many ways over recent years and today there is a rather extensive range of lineside structures and general detail items. Weston Mini-Figures is a supplier of human and animal detail and the pigeons are just part of the range. Packed in a plastic bubble the 6 pigeons are supplied in a base white colour, and the intricate modellers could paint in the eyes and beak. Each bird is on a metal sprue which could be used for mounting. The pigeons are in four differing positions; one appears to be landing; one taking off; one flapping its wings and the others are in a standing position. They appear to be the right size and certainly look like pigeons. They could be easily added to a roof-top or even placed in a park. It is products like these that allow modellers to construct a very realistic scene.

Bob Gallagher

ARE 1978 Steam Calendar. Sample supplied by ARE Sales Dept, Box 221, Caulfield East, Melb. Price: \$3.00 plus 78c postage.

After missing the 1977 year's calendar because of production problems the ARE has bounced back with an impressive collection of coloured photos of Australian steam engines. The engines photographed include three from VR and SAR, two from NSW and QGR with one from WAGR and Emu Bay and the South Maitland Railways.

The appeal of this type of calendar is obviously to have a good quality photo to gaze at whenever the mood takes you. Some people collect the photos and use them in albums, etc., and the photographs are positioned so that they do not back onto each other saving the calendar cutter from making an agonising decision. The cover photo is 310 mm x 310 mm and the inside prints 185 mm x 310 mm.

Colours appear to be a little light in shade on two photos, bluish on one while the rest are good to excellent. Modellers should look closely at these photos as there is much of practical use to be found. The excellent cover photo of the VR's narrow gauge garratt shows weathering on an engine, track and shelter building at McDevitt. The 1964 photo of SAR F255 is of interest also because of the old streamlining at the end of the Overland coach and the colours may interest purchasers of commercial models. Background scenery varies from rolling hills to city buildings and a wharf scene in various photos.

The review sample had a colour defect along the side of one photo but the engine and most of the coaches escaped the flaw. We have been advised that the calendar is available from selected shops or ARE Sales. The review sample arrived by post and suffered the experience of being heavily crumpled.

Phil Curnow

LIMA Deltic Diesel Electric Loco in OO scale. Our sample supplied by Rice-Hoffnung Ltd, Sydney. Price: \$20.95 (RRP).

The model reviewed is finished in the earlier British Railways two-tone green colour scheme and named "MELD". The model also comes in British Rail Blue, at a rrp of \$19.95. It is to 4 mm scale as is all new stock in the Lima British range.

The locomotive has the usual Lima arrangement of a single motor bogie with traction tyres driving only on the outer two axles. When tested, the model

performed well and with a distinctly different sound from the motor. Slow running was possible with a transistor controller.

The model looked a faithful reproduction of a Deltic diesel-electric locomotive and it should prove popular with modellers of British prototype. It is very competitively priced. The review unit was fitted with Lima couplers but I understand Hornby-style couplers will be available.

Graham Ahern

1978 Calendar. Our sample supplied by NSW Rail Transport Museum, 27/15a Belmore St, Burwood, NSW 2134. Price: \$2.00.

In keeping with the Museum's now established format its 1978 calendar once again measures out at 380 mm by 280 mm. It contains a separate coloured picture for each month plus, of course, the coloured front cover photograph. An additional one is included on the back of the calendar.

All photos are up to their usual high standards and it is good to note the inclusion of two shots of diesel (hydraulic/electric), these being in the form of 4001 in its original green colour scheme, and the familiar "Tin Hare" of NSW fame.

Public holidays are clearly marked on the calendar. Once again a good publication which will no doubt be sold out by the time this reaches print.

Allan Brown

FSM NSWGR Z18 loco kit. Details July/August, 1977 AMRM.

It is quite pleasing to learn that manufacturers are seeking to improve their products, but the improvement in the Z18, which was reviewed in July/August, was not due to any fault of the manufacturer, but due to the unavailability of the K's Mark 2 motor which was withdrawn from the market and replaced by the Mark 3 unit which in turn is too large for the Z18 kit. To overcome the problem the ECM Mark 2 motor was used, this motor being reviewed in the September/October 1977 AMRM. (A similar motor is supplied by Australian Model Craft outlets.)

As the ECM motor differs in size to the original K's motor some alteration was necessary to the chassis which tended to improve what was excellent running qualities. The ECM motor, being a "can" type motor has very smooth starting and stopping qualities. The pickups position were moved, but are still installed in a similar fashion. In all the need to change the motors improved the kit, without a price change, which should have followed for the ECM motor is more expensive.

Bob Gallagher

NSWPTC HLV/HLX HO scale kit by CRAFTSMAN MODELS, of 85 Soldiers Rd, Jannali 2226, who also supplied the sample. Price: \$24.00.

The HLV louvre van was introduced to the NSWGR 1959-60 being built by Tulloch Ltd. 75 units were built and were numbered 29550-29624. They were painted black which weathered to grey and can be separated from the LLV/GLV vans by the fact that they have a single sliding side door. In 1963 the underframes were strengthened and were recoded

BLV but when fitted with bogie exchange they were recoded HLX. As of April 1977 there were 48 units in service. Some have now been painted PTC Blue and are used for many tasks including banana traffic from Coffs Harbour and beer traffic where they are attached to the nightly mail trains.

The kit is almost totally produced by the chemical "photo etching" method, and while aluminium was the base material for the kit reviewed sheet brass is now used. The main body parts (inner and outer) are pre-formed and inserted inside each other, however before assembly the door openings must be cut out, which can be readily accomplished by inserting a correct sized wood block inside the body and then drilling around the inside perimeter of the door; then finishing off with a file. The roof on the pre-formed body was buckled, however this problem does not seem to be in existence with other samples. The ends have to be added to the sides and the "dreadnought" sections glued in place. The ends look very realistic. Most components were fitted with "super glue". The door section had to be reduced in height to allow correct fitting of the floor. The instruction sheet was a little vague in places and an extra diagram would help assembly as would a photo of the prototype unit. The louvre etching did not have constant depth or thickness, which could be traced back to the original artwork or sloppy etching.

Underfloor detail is fully etched and can be easily removed from the master sheet. Each component is identified however when all components are removed from the sheet many parts can be assembled into the incorrect position, so care must be taken. The underfloor is marked for the positioning of components and the detail is so meticulous that an overturned LLV/GLV/HLV would be of great assistance for assembly. Bolster/coupler mount, brake cylinder/triple valve and air cylinder are supplied as well detailed lead castings. Bogies (not supplied) are to be any standard NMRA standard (RP25) bogie, (Athearn, Central Valley etc) and when attached the coupler mount is the correct height above the track for Kadec 5 and 10 couplers. The PMH style coupler have to be reduced in bolster height for correct fitting. The fully assembled unit meets the correct NMRA weight standard.

The finish of this fine scale kit depends upon the ability of the craftsman assembling the unit. Being among the first kits made by Craftsman Models there is room for improvement, as no doubt future kits will benefit. A craftsman kit from Craftsman Models and not for the faint hearted.

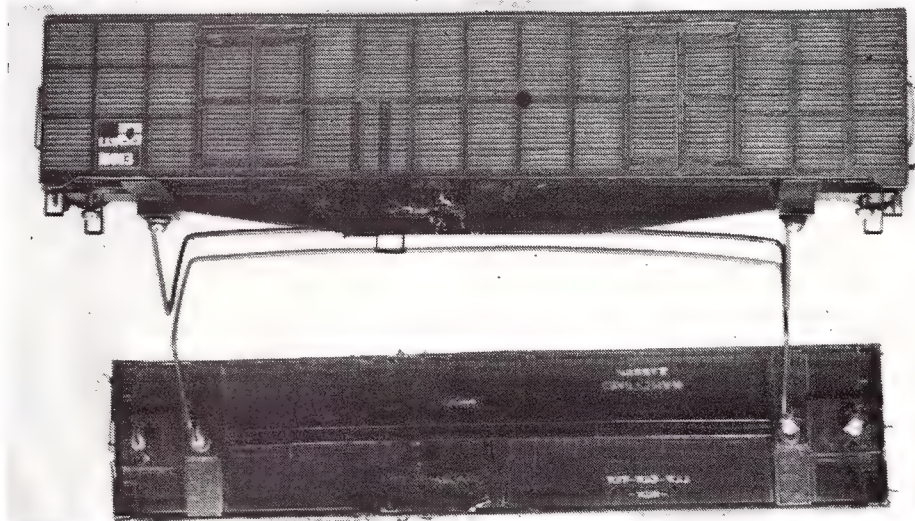
The photo accompanying the review is of a LLV kit, for a technical error destroyed the HLV photo.

Graham Ball

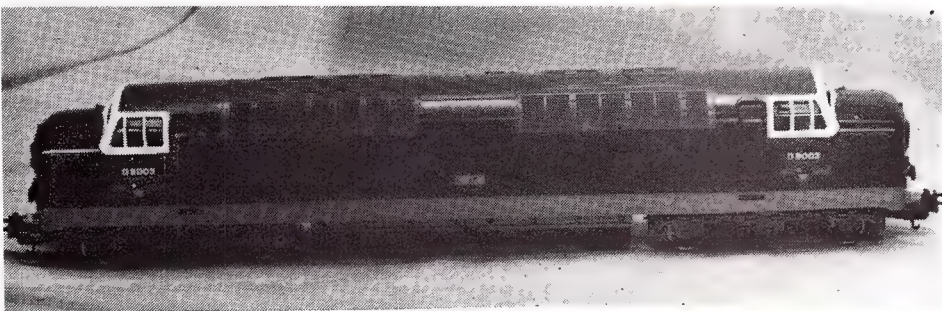
Forgotten Railways East Anglia by R. S. Joly. Copy supplied by ANZ Book Co. Pty Ltd. Price: \$10.95.

Another in the Forgotten Railways series published by David & Charles, it tells the story of various lines in the East Anglia region of the United Kingdom, most of which are now closed.

Forming part of the Great Eastern Railway system, many of the lines survived into the 1950s still with gas lit carriages hauled by a 60-year-old steam locomotive. The book covers in some detail the



Craftsman Models NSW LLV kit.

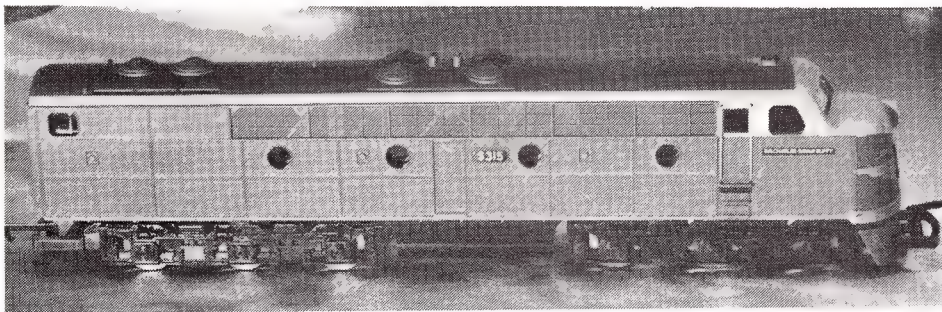


history of the lines and their impact on the areas they served in a quite readable style.

Well illustrated with maps and photographs, the book provides an interesting insight into railway operations in this rural and often sparsely populated part of England. Obviously much research has gone into the book and the section outlining what remains of the lines, stations, structures, etc., as well as their present uses, would be very useful for anyone wishing to explore the area.

The book would probably be of limited appeal unless one had an association with or an interest in the locality.

Graham Ahern



Hornby Victorian Railways "S" class diesel locomotive. Sample supplied by distributors Intertoy Pty Ltd. Price: \$29.98.

The model of the Victorian Railways "S" class diesel locomotive is something of a milestone in the Australian modelling scene, being the first item in the Hornby range to 3.5 mm scale. It scales out about 1'9" too long but is otherwise accurate. However it looks like an "S" class should and that is the important point.

The moulded detail is good although I would have liked the roof fan blades to be more prominent as they are such a feature of these locomotives. The other criticism is the diaphragm surrounding the door at the No. 2 end; it is much too large but this could be altered if desired. The front skirt is attached to the bogie so as to accommodate the coupler but it should be no problem to fix the skirt into place on the body if fitting Kadec couplers.

The painting and lining are to the correct style, probably the blue could be darker and the yellow paler to match these locomotives in real life but one can always vary the colours if necessary.

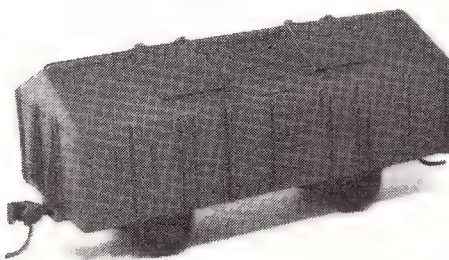
The model is of the later version of the "S" class, originally built for standard gauge operations, and therefore has the flexicoil bogie. Correct numbers and nameplates are provided for S311 or S315 by means of a stick-on photographic reproduction, a nice feature.

All in all, Hornby are to be congratulated on their first effort to produce a genuine 3.5 mm scale locomotive and we trust it will be the forerunner of further 3.5 mm scale items. At the price it deserves to be popular.

Graham Ahern

NSWR "RU" 4 wheel wheat hopper kit in HO scale by Australian Transport Models who also supplied the sample. Price: \$4.50

The "RU" wagon was introduced to the NSW system in 1942 for the transportation of wheat. They were manufactured until 1946 when there were 650 wagons on the register. The wheat is loaded into the roof hatches and discharged via the underfloor hopper doors. An additional wagon was built (L422)



for carrying sand at Port Waratah. The vehicles are painted the standard NSW black (with many variations of rust) and were usually worked as block trains, although the "block train" term was not commonly used when the "RU" comprised the bulk of the wheat carrying vehicles. The "RU" saw service on most wheat lines and lines heading to the port.

It is difficult to call this product a kit for the body is one piece and only the underframe (PMH) has to be added. Full assembly time was 6 minutes which included 5 minutes for epoxy drying time. The overall size of the vehicle is close to scale and most detail is evident, the handrails being cast on. There was no evidence of flash but some external straps were broken. The wagon was supplied in polyester, coloured black and does not really need painting, but as most "RU" wagons were a variation of (black) colours the review sample was sprayed grimy black and will be weathered. A plan of a "RU" can be found on a DATA SHEET plan.

Overall an excellent product, and a gem for those who are cautious at attempting kit assembly.

Bob Gallagher

MLE HO wagon kit by ATM. Sample supplied by Australian Transport Models, PO Box 60, Unanderra, NSW 2526. Price: \$4.00

These wagons are the standard 45' flatwagons, having a steel frame with a timber deck. The earlier LE and MLE wagons had four bolsters while the later



UME and HME wagons lacked the bolsters but retained the four stanchions each side. Some wagons later had the bolsters or stanchions removed and were fitted with holding blocks for use as container wagons, or other fittings for use with special loads.

The kit comes in a sturdy cardboard box with a concise instruction sheet and the following: a one piece body casting with both decking and underbody detail, four bolsters, a brake cylinder and air reservoir, brake wheel, 2 bracket castings, load control lever and PMH Bettendorf bogies. All parts are cleanly moulded in polyester and were found to be free of any flash. Any rivet or other small details are clearly visible.

Either a MLE, with bolsters, or UME, no bolsters, can be constructed in a very short time using few tools and one of many rapid drying cements.

Unfortunately the model is undersize in both length and width. The length of our sample measured 44'3" as against the prototype's length of 45'0" (which is insignificant) and the width measured 8'7" as against the prototype's width of 9'1". When coupled to models of correct width this model appears smaller and so detracts a little from its appearance. The manufacturer is to be commended for producing such a well detailed and simple to assemble model.

Ian Thorpe

REVIEWS

In Brief

FSM NSWGR C35 locomotive and tender kit.

A pre-production sample of this kit has reached AMRM office and an interesting assembly project is on hand. FSM have used the good points from the Z18 kit for the mechanism which is backed up with some incredible mouldings, the footplate being cast complete with splashes, smoke box and fire box attachment. The boiler actually falls together. Some components have a few flaws that are in the process of being corrected as these notes are present. The models of the C35 have had a chequered career with the Berg's Models unit being cancelled (due to unpopularity), then the Aussie Kits (EAMES) kit which could not satisfy the market demand and now the FSM unit. . . time will tell and the full review will be published when the kit is fully assembled and running.

Bob Gallagher

AMRM NEWS

Compiled by Bob Gallagher and AMRM Staff.

As we go to press havock reigns at the office of AMRM. The intervention of holidays, a very ill editor who is thankfully on the mend, and a solid backlog of letters thanks to the Sydney mail dispute have nearly brought us to our knees. Hopefully we will be able to catch up on mail, article acknowledgements and general correspondence in the near future. A reminder to those who write and require an answer; please include a stamped addressed envelope to assist with costs.

Price Rises

In the July/August 1977 issue we asked for comment/debate on a price rise or a drop in page quantity. The response was gratifying (a number of letters have been published) and all indications pointed to the general acceptance of a price rise. Unfortunately the price rise is, by any standards, rather steep; however the increase has been brought about by a number of factors which we have no control over. Primarily the price increase last year did not cover the increased costs incurred and, on top of this, photography, a major factor in AMRM, doubled in cost, even though we only have to pay for materials. Finally and most disappointingly we have not had the full support of the commercial side of this hobby, that is those who make their bread and butter out of the interest this magazine generates. We ask readers to help here by only purchasing goods supplied by our advertisers. The others may sell their stuff a little cheaper (or dearer) but our lifeblood depends on advertising and readers are keen to read of new products.

Accordingly, with the January/February 1978 issue (due on 1/2/78) the price of each copy of AMRM will be 90c. The subscription rate will rise accordingly from 2/12/77.

NSWR D57 Class

The comments, re the D57 model in the last issue of AMRM were a little misleading and need some clarification. Berg's Hobbies has been able to arrange the delivery of the D57 but only in small batches, the first hardly making a ripple among the many interested parties, but a second shipment was not of sufficient size to supply all confirmed orders and, to overcome any problems, Berg's Hobbies conducted a ballot of all orders. Allan Brown and Graham Ball were present and in fact conducted the ballot. The remaining orders, and of course the later enquiries, will be supplied by a latter delivery that is expected to have landed in Australia before this issue hits the street.

Unfortunately, it has taken the haphazard delivery of the HO model of the D57 to show the holes in the ordering/reservation system that has been used for some years, and maybe the time is right for the implementation of a fairer system. Any system of reservation should give preference to priority of ordering, with the over-riding factor that the reservation party can pay cash for the product. (Any time payment/lay-by system can hold up a lot of money in the early days of any project). This system would give those modellers who showed good faith and placed an order, the preference over the many who "wait and see" and come running waving "wads of paper" in the air, believing that the smell of bank notes "beats all". The system has to be invoked by the importer/shop and must benefit himself as well as his customers, which in any case would be better than a last minute ballot. The reservation/ordering system could simply have a priority number on the receipt butt. If a sane fair system is not invoked it would be senseless for anyone to try to order (in advance) a model, for it would not guarantee the delivery of a model. Without a reservation system how can an importer gauge the demand for the product? We certainly do not want a repeat of the 1976 C38 dilemma where there was not sufficient models manufactured to satisfy demand.

Super Glues

The following is reprinted for the safeguard of the many AMRM readers who use the fast setting glues.

Quote from NEW SCIENTIST, 30 June, 1977 — "Loctite, a maker of cyanoacrylate glues, has issued a first aid leaflet in Britain which, it says, is designed to correct a dangerous misconception about how to treat skin bonds". According to Loctite, experience from USA (where, for ten years now, some twenty million tubes a year have been sold) has shown that surgery (when skin is bonded together) is NEVER required.

"Although the glue produces an almost instant bond with very high tensile strength, the peel strength is relatively low. Thus bonded flesh must be peeled or rolled apart, not pulled or cut. Even where the eyelids are stuck together, the eye will open of its own accord in between one to four days. In every case skin separation can be accelerated and eased by thorough washing with warm water."

The National Safety Council of WA has also issued advice along similar lines, and, in addition, suggests rolling a pencil between fingers stuck together.

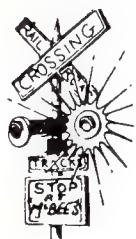
Passenger Train Operation

The response, both verbal and by letter, re the prelude to the forthcoming Passenger Train Operation articles is very encouraging, for we were not aware that so many of our readers were interested in the subject. If by chance any reader has any passenger operation "gems" on hand, they would be most welcome, especially if they are of trains outside NSW.

Publication of Articles

From time to time we receive enquiries from authors as to when their contribution is to be published. Some become very agitated and demand the return of their manuscript. To help give some guide we print the following notes. AMRM is fully prepared by voluntary staff and all preparation has to be accomplished in what would normally be our modelling time. Most articles, upon receipt, have to be either typed or edited into a publishable state; many need diagrams, and some need further research. No article is programmed for publication before all of the article is ready. This usually indicates that an article is in our hands 6 months (at least)

Continued on page 48



McBEE'S HOBBY CENTRE

"THE"

Model Railway — Mail Order Specialists

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SALES

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SERVICE

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COBURG, VIC

3058

POSTAGE:

Under \$10 add

\$10-\$25 add

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McBEES would like to wish all our customers a Merry Christmas and for the New Year — Peace. Please note that although we now have a shop at 535 PLENTY RD, EAST PRESTON the Mail Order address remains unchanged ie PO Box 144, Coburg, Vic. 3058. **BANKCARD** is welcome in the shop or by mail. When using Bankcard for Mail Orders simply state Bankcard No., Expiry Date, and write "Please charge to my Bankcard account". Open times for the shop are: Mon.-Thur. 10.00 until 6.00, Fri. 10.00 until 9.00 and Sat. 8.30 until 1.00.

LaBELLE LUBRICANTS

- 101 Synthetic multi-purpose oil \$1.95
 - 102 Plastic Compatible gear lubricant \$1.95
 - 104 Synthetic Oil \$1.95
 - 106 Plastic Compatible Grease with Teflon \$1.75
 - 107 Plastic Compatible motor oil (medium) \$1.95
 - 108 Plastic Compatible motor oil (light) \$1.95
- CAUTION Unless labelled "Plastic Compatible" LaBelle oils will damage paints and some plastics.

N.W.S.L. — SAGAMI

12 volt D.C. CAN TYPE MOTORS.
Demand for these fine motors has been very heavy. Each motor comes with two mounting screws.
28241-9 Diameter 28 mm, length 24 mm, 9800 rpm at .08 amp. under no load.
Ferrite magnet Price \$15.40
The above motor has a shaft each end. There are many others in the range. Write for details and prices.

NEW PRODUCTS EXPECTED

While in the past we have tried very hard not to advertise items which are not on our shelves (we have burnt our fingers once or twice — usually about the times when the Post Office or Harbour authorities are having labour difficulties) we are bending the rule this month. The reason? Two new manufacturers of HO diesels. The first is the E.T.M. Co. who will be releasing an EMD SD40-2 in UP, C&NW, SP, Santa Fe, and BN which we expect late January '78 with other road names to follow. Features include Sagami Can motor, 12 wheel drive with flywheels, parts accessory package including M.V. Stands, 6 air hoses, cab awnings, dummy dome flasher and 5 chime air horn. X2f Couplers are standard but units will accept Kadee No. 5's without modification. Price will be about \$37.50. ETM also plan to release an Sw800 Diesel lettered Coors at \$25.00.
The second new manufacturer is D&H whose model of an RS 1 (also with can motor etc.) is expected February/March. Watch for more details in future editions of this magazine.

HORNBY

With our move into a shop we have increased our range of a number of lines — not the least of which is HORNBY. While supplies can be erratic at times we will do our best to fill your orders. Hopefully the VR "S" Class Diesel will be in stock by the time this appears. We do have the new Turntable No. 410 at \$19.98 and motorising unit No. 411 at \$14.98. Write for full price lists.

LIMA

The range of LIMA OO gauge equipment has been around for a little while now. Detail is very good and all Lima OO is equipped with Hornby/Triang style couplers. In Lima HO we are offering a special on the green NSW C38, normal price is \$45.00 as a Christmas special only \$36.50 while they last.

If the wife, girlfriend (or whatever) of a model railroader is reading this ad. and wants a good idea for a Christmas gift for the man (or woman) who has everything, may we suggest our pack of "Iron Horses of the (Santa Fe) West" playing cards at a medium price of \$9.95. See Reviews section of July/August AMRM for details.

BOOKS — KRATVILLE

- Union Pacific Streamliners \$42.50
 - Turbines Westward \$15.95
 - Big Boy \$9.25
- ## CHATHAM
- Santa Fe's Diesel Fleet \$16.95
- ## AUSTRALIAN BOOKS — ARHS
- NEW! Steam In Australia \$7.90

L.A.R. DRILLS

- 12 volt Drill with 2 spare chucks \$18.95
 - Set 10. 12 volt drill with an assortment of 10 drill access. \$28.50
 - Set 30. Super Deluxe home workshop in carrying case. Contains 12 volt drill, drill stand and flexible drive. Plus assortment of 30 drill access. \$67.50
 - Flexible Drive Shaft \$10.50
 - Drill Stand \$15.95
 - FLINT Products N Scale Rule \$1.85
 - PECO Products N Scale Rule \$1.00
- The Peco rule is for British N Scale, the Flint Products is for most others.

BRASS MODELS

We are finally in a position to be able to give customers some idea of new models "in the pipeline". A letter outlining your field of interest (which road, steam or diesel etc) will get you details of what's new.

KADEE COUPLERS HO and N

"At long last Kadee couplers should be easier to obtain, for they are now handled by . . ." part of a quote by Bob Gallagher and/or AMRM Staff in AMRM news Sept./Oct. edition.
Obviously, SOME PEOPLE don't read our ads. We have for some time now featured a large range of Kadee products in our advertising at prices somewhat below those of other retailers, in the Melbourne area at least. If you live interstate (or locally) and order more than \$30.00 worth we even pay postage. We ask you, Bob, what could be easier?

FOR THE SCRATCHBUILDER

Although tempted to "let sleeping dogs lie" we gave in and are now able to offer from the

WESTON HO range:—

- Sleeping dog (1) \$0.65
- Pigeons (5) \$1.35
- Naked lady and (1) \$1.35
- her Clothes \$0.75
- (all the above are painted)
- 1914 Ford Truck (Kit) \$4.00

DYNA-MODELS (painted metal kits) HO

- 1908 Buick \$5.95
- 1916 Twin Six Packard \$5.95
- 1914 Stutz Bearcat \$5.95
- 1911 Maxwell \$5.95

SCALE STRUCTURES LTD. HO Scale.

All metal, unpainted detail parts. All priced at \$1.95 a pack. Number in brackets indicates number of pieces per pack.

- 2201 Push Broom (5)
- 2213 Oil Can Large (6)
- 2214 Oil Can Small (10)
- 2215 Bucket (4)
- 2220 Tin Dipper (6)
- 2221 Grease Pot (4)
- 2224 Coal Rake (4)
- 2229 Grain Sacks (4)
- 2232 Sack Leaning (5)
- 2238 Steel Shovel (4)
- 2239 Long Shovel (4)
- 2240 Spade (4)
- 2253 Coal Scoop (4)
- 2281 2 Wheel Dolly (2)
- 2282 Cast Iron Bench (1)
- 2283 Baggage Barrow (1)
- 2298 Lanterns (6)
- 2299 Acetylene Bottles (4)
- 2300 Oxygen Bottles (4)
- 2301 Tiny Tools A (12)
- 2302 Tiny Tools B (12)
- 2304 Tyre Spanner (6)
- 2306 Tyre Pump (6)
- 2307 Air Compressor (3)
- 2311 Welding Cart (2)
- 2312 Welding Hose, nozzle (2)
- 2321 1929 Petrol Pump (1)
- 2350 Stock of 36 sacks (1)

and from ROCO packs of 24

Flesh coloured, unpainted station figures in various poses at \$1.30. New additions are being made to the Scale Structures and Weston ranges each month, details appear first in our Newsletter which normally appears in the month that AMRM does not. While on the subject of Scratch Building parts, kits etc. we will import any item featured in the Walthers Catalogue, the 1978 edition of which should be in stock late January Priced at \$4.00 plus postage.

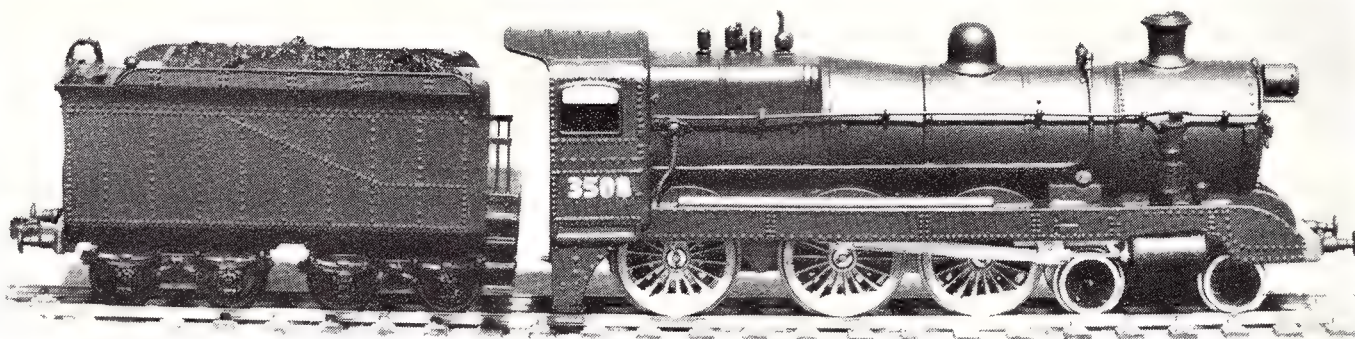
THE MAIL ORDER SPECIALISTS —

McBEE'S, P.O. BOX 144, COBURG, VICTORIA, 3058



PO Box 144 is registered at 535 Plenty Road, East Preston. Items above are a selection only. Any other enquiries, please write. Licensed secondhand dealer.

FSM



N.S.W.G.R. C35 Locomotive & Tender Kit.
HO Scale. \$90.15 + 5% p.& p.

Printed Brochure, Photograph & general data available.

N.S.W.G.R. Z18 Tank Loco Kit.
N.S.W.G.R. Z25 Loco & Tender Kit.
Both will remain in production at the present price.
Due to material price increases, an increase in kit prices can be expected in the near future.

CAST METAL PARTS ARE ALWAYS AVAILABLE. SEND S.S.A.E. FOR OUR PRICE LIST.
F.S.M. P.O. Box 169, FORESTVILLE, N.S.W. 2087.

AMRM NEWS — — —

Continued from page 46

before it is published. Sometimes, however, we receive a number of articles on a similar subject at the same time, which of course must be spread over a period of time for we have found that AMRM readers are a choosy lot and, quite correctly, demand a range of subjects. As an example here we have in hand a number of locomotive building articles which will be spread over 1978, some being held until we can arrange for a plan to be prepared. It is necessary for any magazine to maintain a supply of articles to allow the editor the choice of subject range. Thankfully, gone are the days when AMRM existed from issue to issue, waiting on the post for an article to print in the next issue. Most readers seem to be pleased that AMRM is now of high quality, so please bear in mind that many hours have to be spent on final preparation and many more chasing that needed photograph or hidden detail. We at AMRM, strive to give the Australian modelling public the best, but we can only do it with the help of readers. If you have not seen an article on your aspect of the hobby it is probably due to the fact that we do not have an article on the subject, so why not write one tonight. No matter how rough the original, AMRM staff now has the expertise to prepare all articles to a similar standard.

New Products

It is always pleasing to make mention of a new manufacturer on the local market and of course the new products. CRAFTSMAN MODELS is producing a number of NSWPTC goods wagons using the chemical etching method, a new innovation for an Australian produced kit. Detail is minute and extensive and will be fully covered in the REVIEW section; however one asset of the etching process does not seem to have been fully utilised in all aspects for with chemical etching, the master is a drawing, and as such similar parts can be quite easily duplicated with the reproduction of a master drawing. One kit suffers this problem which no doubt will be corrected in future kits. It was amusing to overhear a remark that was passed on these kits, for the interested party flatly refused to buy the kit claiming that it was too detailed in comparison to his other models. These kits are welcome on the Australian market.

The Hornby VR "S" class and ANR (Commonwealth Railways) GM12 class locomotive units are now available, although on a limited basis. It should not be long before a keen unbiased modeller

repaints the "S" to a 42 class.

SCALE LINE is preparing a NSWPTC "KF" flat wagon kit for HO scale. The "KF" wagon was featured in the September/October issue of AMRM.

FSM has been able to at last obtain a steady supply of components that should see the reliable production of their metal kits. As this issue goes to press a sample of their latest model, the NSWGR "C35" class, came to hand. The next kit in the FSM range will be from the NSWGR Standard Goods locomotives and should be a D55. The release of the FSM kits has certainly given the NSWGR modellers a choice of detailed kits to choose from. One hopes that the NSWGR modellers make use of the products while they are available. Australian Transport Models is working on a one piece NSW "K" wagon and the sample observed certainly captures the image of a battered "K" wagon.

Australian Model Craft have published a booklet aimed at the model railway beginner. Entitled "The Wonderful World of a Model Railway in Australia" the book covers many of the questions newcomers ask. It does not cover the Australian Prototype scene in any depth but will become a gem for many.

SCRATCHBUILDERS KITBASHERS

Roofing and siding sheets. Corrugated H/O only. Tray H/O and N. Alum. .004" — 10 sheets for \$2.50. Copper corr. only .006" — 10 sheets for \$6.00. Sheets 150x75 mm — 10 sheets min. order. Rail gauges and cutting guides combined. HO, HO_N2½, HO_N3, N — \$3.50 each. Scribed wood — 12" and 6" planks, 3 mm. 300x75 mm — 5 sheets for \$1.75. Minimum order 5 sheets. Cork, 900x31x3 mm — 5 for \$2.10.

All orders post paid — Aust.

**G. Duncan, 18 Waratah Avenue,
Glenhuntly, VIC. 3163**

DATA SHEETS

Now Available — Sheets dealing with NSWGR classes. (Z)12, (Z)19, (Z)25, (Z)17, (C)32, (D)53, (C)30 & (C)30T, (C)36, (D)57, (C)38, (D)59, (AD)60, 44 D.E., 48 D.E.

Bradfield Electric Cars.

CPH/CTH Rail Motor and Trailer.

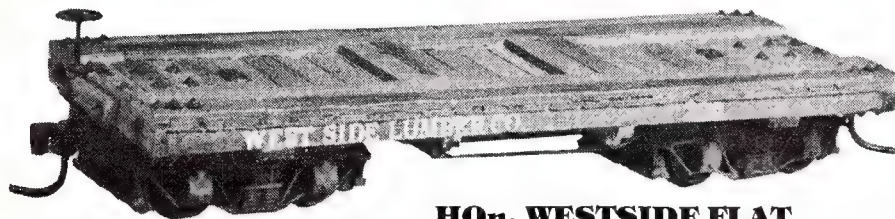
CBC/HX Pullman Coaches.

BWH/RU Wheat Hoppers.

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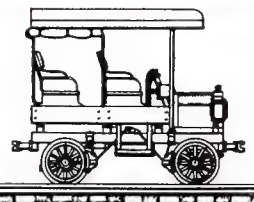
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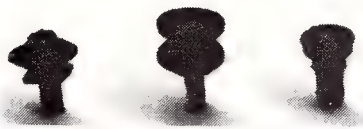
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DUE to the recent illness and extended convalescence of one of the partners our production capacity will be reduced by 50% for the foreseeable future. In order to offset this we shall be reorganising our activities to maintain a reasonable output.

The introduction of the next R series car will be delayed until Jan/Feb and from that time we shall be concentrating solely on the production of moulded parts for our models. Packaging, distribution and sales will be handled by a separate concern and the kits will be marketed under a different brand name.

Further details will be published in the next issue of AMRM.



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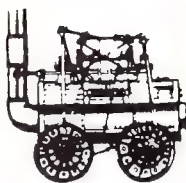
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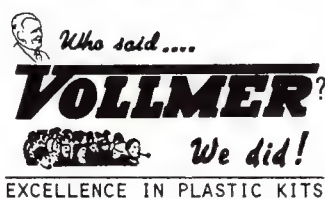
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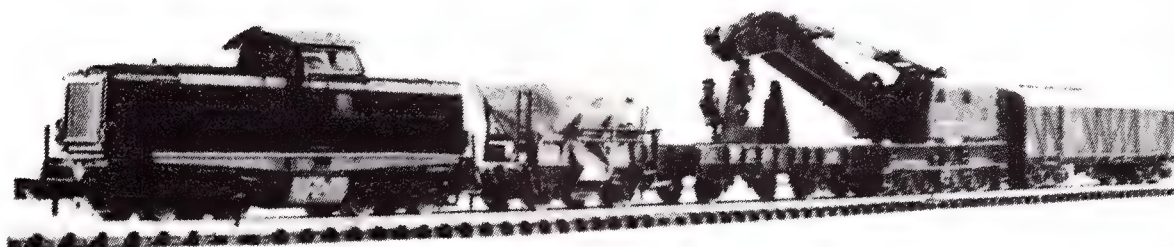
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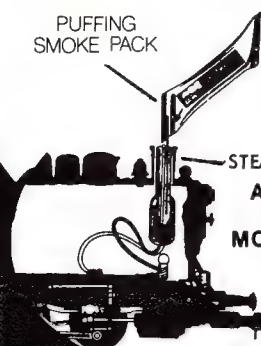
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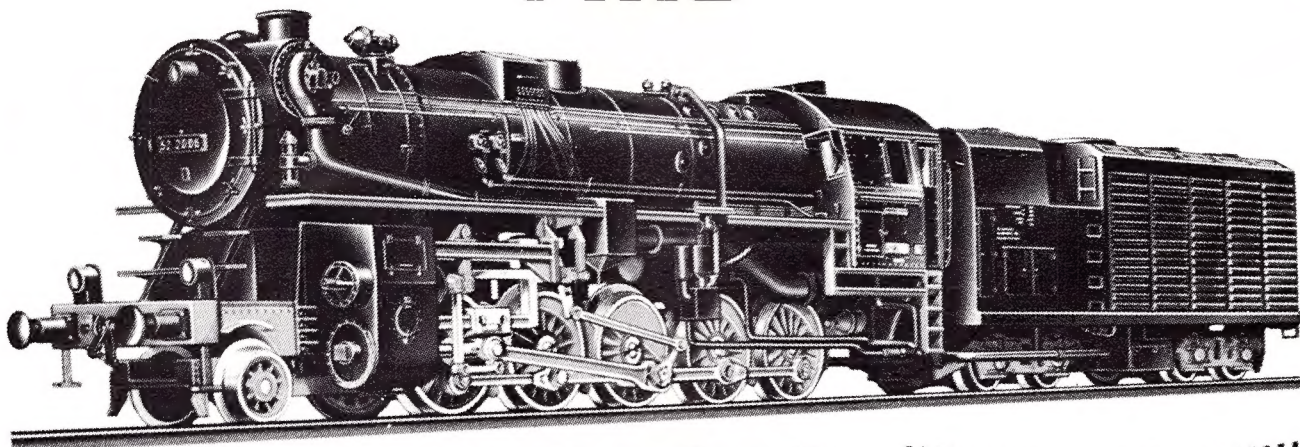
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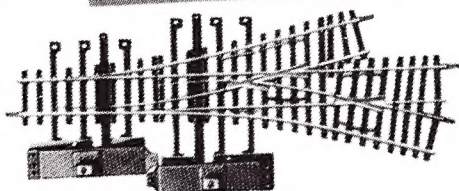
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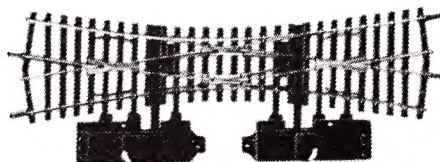
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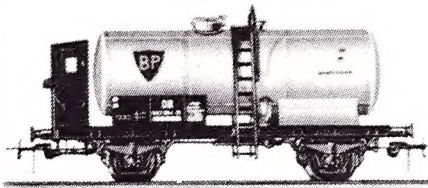
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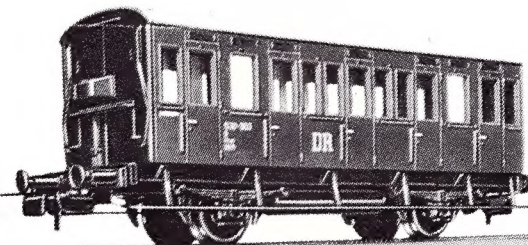
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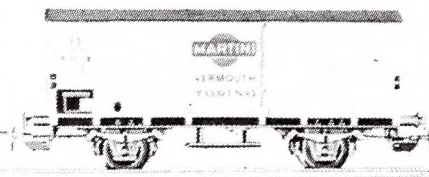
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LATHES. Now available in Australia the TAIG Micro Lathe Mk II. At a price you can afford. Send S.A.E. 9" x 4" for details to SOUTHSIDE DISTRIBUTORS, PO Box 183 Port Kembla, NSW 2505.

LARGE Flanges? Have your loco wheels converted to Fine Scale Standards. 65c per axle. 4-6-2 Loco with 4 axle tender 9 x 65c. Same loco with 6 or more axle tender 10 x 65c. W.M. Secker, 2 Hilltop Ave, GLEN IRIS 3146.

WANTED

GAUGE "O" Electric — Hornby, Lionel, Ferris and larger clockwork. All Hornby "O" accessories. High prices paid for

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mint material. Phone (02)9138422 after 8pm or write W. Baker, 1303 Pittwater Rd, Narrabeen 2101.

VR "Na" class locomotive. (Model Dockyard importation) in HO/N2½ scale, but would be interested in a HO/N3 unit. Send details, condition and price to R. Wigglesworth, 5/22 Albion Rd, Box Hill 3128.

HORNBY, Lionel, Ferris or live steam gauge "O" trains. Need not be complete or working. Also any Hornby, Lionel stations signals, level crossings, etc. Fitted electric lighting and pre-war Meccano, electric motors and manuals. Phil Howarth, 8 Milford Rd, Miranda, NSW 2228. Ph. (02)5245612.

WANTED: Balboa HO brass PA1 & B, also E8 A & B units. All in Northern Pacific livery. Berg's brass C30 & C36 roundtop C. Heazlewood, 68 Lethbridge St, Penrith 2750. Ph (047)21 2198.

FOR SALE

AMRM back issues:— No. 22 Sept./Oct. 1966, No. 35 Nov./Dec 1968, No. 41 Nov./Dec 1969, No. 63 Nov./Dec. 1973, No. 72 May/June 1975. 60 cents each. TRAINS Dec. 1973, \$1. Price includes P&P. All good condition. T.R. Kyngdom, "Three Corners", Railway Rd, Burradoo 2576, NSW.

Quantity "N" gauge equipment. Buildings, controller and transformer, locos, rollingstock, track, one point, signals. All new. Please ring for list (02)871 8679 or write Ted Gray, 56 Somerset Drive, North Rocks 2151.

TRIANG (Hornby) Fowler, GWR Pannier (smoke), green B12 (smoke) Hall \$30 each; Black 5 \$40, Evening Star \$45; All new unused boxed. Also blue Coronation, Electra, E3001 \$40 ea,

Rocket and one coach \$100; All used good condition. Also have Hornby, Lionel and Ferris gauge "O" trains for sale or exchange for other gauge "O" tinplate or live steam. Phil Howarth, 8 Milford Rd, Miranda, NSW 2228. Ph. (02)5245612.

O GAUGE scale models — American Santa Fe 4-8-2 mountain loco 2 rail in mint condition, also NSW D57 loco, 3 rail in good running order. \$600 the two. Phone Sydney (02)9693238.

MARKLIN HO 3 rail 0-6-0 loco with two goods wagons, oval of track and transformer. \$45.00. R. Phillips-Smith, 12 Knuckey St, Whyalla Norrie 5608.

FOR SALE. One 16' x 20' HO layout, Santa Fe, including 35 locos (some brass) and 110 freight and passenger cars. Fully scened and featured in the December issue of Railroad Model Craftsman. Many rare items included as the layout was built over 10 years, also many kitbashed units. Must sell as owner is going to the United States. The asking price of \$1,200 o.n.o. would only cover cost of rolling stock. R. Cross (049)334786.

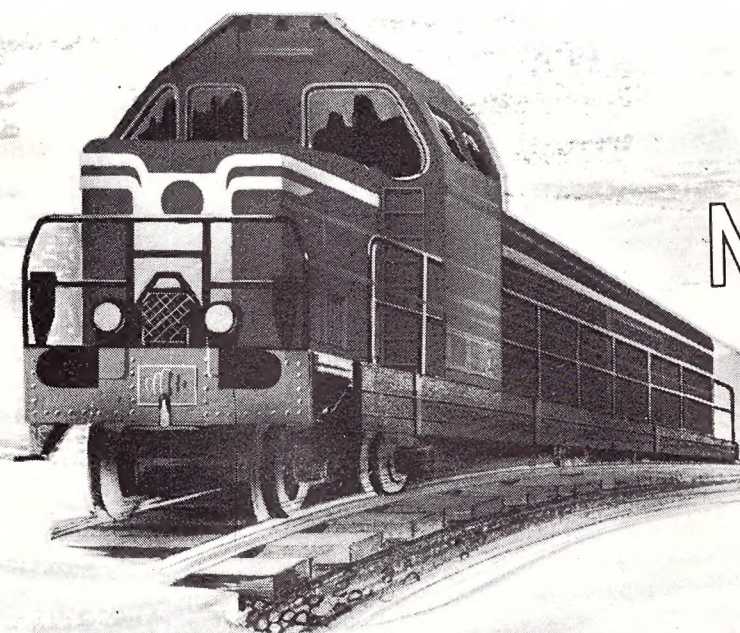
AMRM Nos 2-57, 59-84. Model Railway Constructor Aug. 62-April 77, few missing. Model Railway News odd Nos, 1950-59, Aug. 62-Nov. 70, Jan. 71-Aug. 71. Model Railways Sept. 71-June 77, few missing. Railway Modeller 1963-May 1977, some cut and partly bound. Ring Sydney (02)44 7151 evenings only.

HOBBYTOWN KIT still in box. Motor, clutch and drive unit plus front and rear bogie to suit ALCO 2,000 HP unit. Phone R. Price (02) 521 6108.

Continued on page 41

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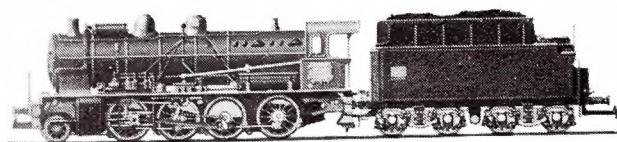
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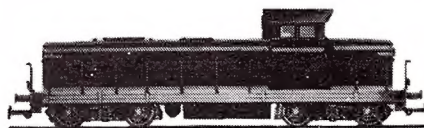
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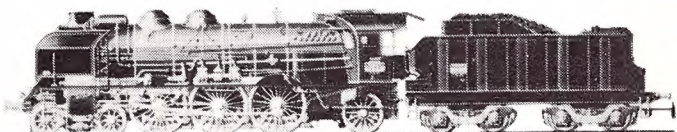
8283 140C CONSOLIDATION LOCO AND TENDER



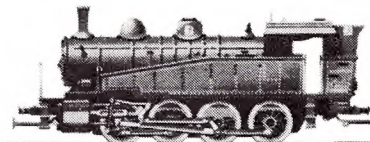
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8256 231K PACIFIC LOCO AND TENDER



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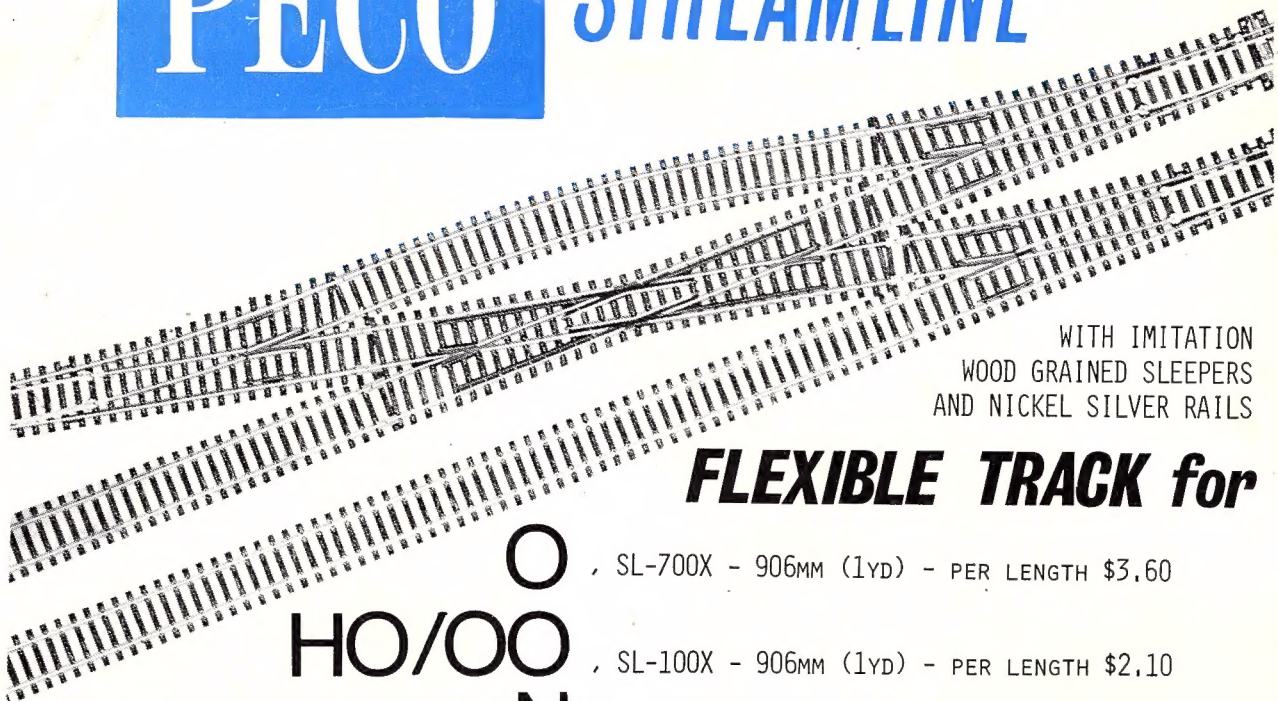
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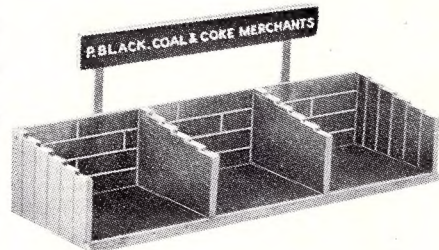
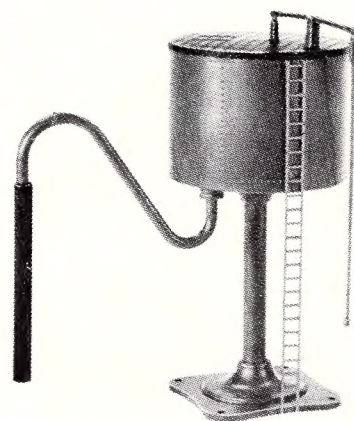
- SK-11 Distant Hills
- SK-12 Distant Cultivated hillside,
nearer open ground
- SK-13 Distant Hills & crops etc.
- SK-14 Hill, Tree & Foreground
- SK-15 Village
- SK-16 Town
- SK-17 City
- SK-18 City Extension
- SK-19 Sky with clouds

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